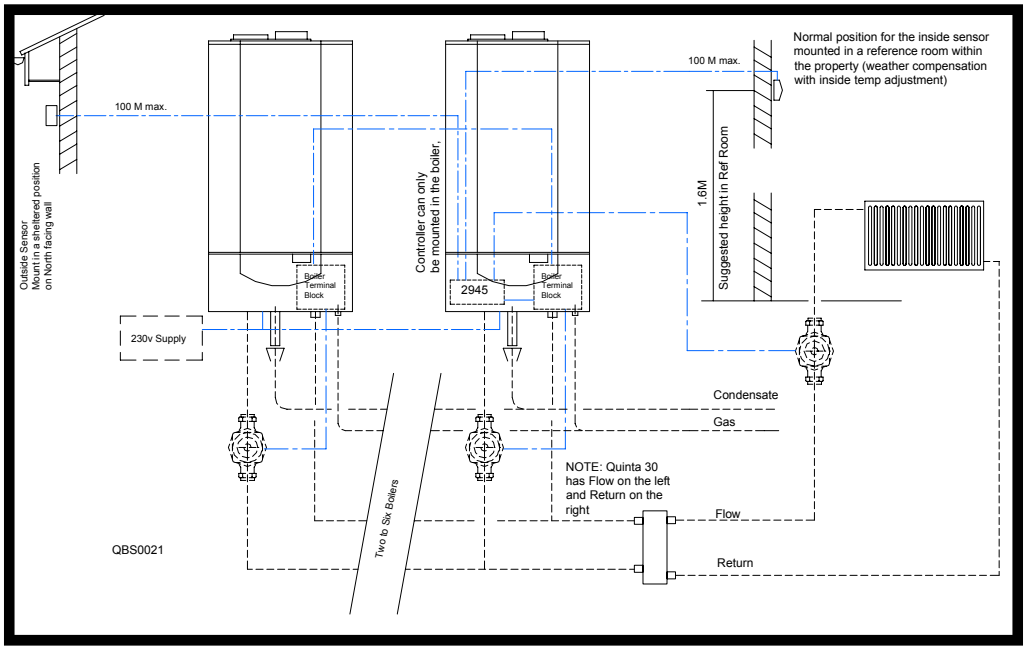
Suggested Schematics with Control and Power Wiring details

Remeha Quinta Series



broag - remeha

Advanced boiler technology

Issue No. 8 Date: 4 August 2008

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PLEASE NOTE:
The layouts illustrated in this brochure are for guidance only and do not constitute a full system design. All systems Mechanical and Electrical must be installed to the current regulations by a suitably qualified Engineer.

Control Options for the Quinta 30 / 45 / 65 / 85 / 115 Series

The Remeha range of Quinta boilers are fairly unique within the commercial market in that they are supplied as standard with an “Open Therm” control interface which enable direct weather compensation using Remeha single and multi boilers controls or the customer can choose to use external control options supplied by others without affecting boiler performance

Supplied by others

On/off control

- Boiler requires a permanent 230v supply and is enabled using a volt free switch/relay. The boiler’s will modulate their output to maintain the flow temperature set point -normally 80c but can be adjusted on the boiler between 20ºC and 90ºC

High/low control

- As On/Off but requires an additional volt free contact -rarely used as this does not use the boilers ability to modulate but may suit a fairly basic two stage compensator or a multi boiler sequence controller

0-10 volt control

- Boiler requires a permanent 230v supply and is enabled and modulated using a 0-10 volt signal from a Building Management System or quality panel mounted optimiser / compensator. The control can be flow temperature or percentage output based

Temperature based example - If 56ºC flow is required from the boiler the control will supply 5.6v, the output will be modulated to maintain a flow temperature of 56ºC
Percentage based example - If the control logic requires that a boiler should be running at 33% the control will supply 3.3v to the boiler - boiler will run at 33% output with a variable flow temperature

Applications- domestic / commercial and industrial installations, with a variety of heat emitters, DHW via calorifiers or plate heat exchangers and installations where a variety of different temperatures zones are required at the same time

Supplied by Broag as optional extras

Celcia 20 - Single boiler weather compensating controller

- A simple programmable, room mounted thermostat / timer which uses a combination of outside, room and flow temperature to vary the boiler output (flow temp) to suit weather conditions.

Celcia 20 is installed in a reference room, 7 day timer with multiple on/off periods, holiday function, frost protection and manual overide (Can be mounted in a non-reference area i.e plant room when used in weather compensated mode).

Celcia MC4 sequencing controller in conjunction with the Celcia 20 - Multi boiler weather compensating controller with step control

- A simple programmable, room mounted thermostat / timer which uses a combination of outside, room and flow temperature to vary the boiler output (flow temp) to suit weather conditions combined with the sequence controller to provide full control of up to 4 boilers

Celcia 20 is installed in a reference room, 7 day timer with multiple on/off periods, holiday function, frost protection and manual override whilst the MC4 is mounted adjacent to the boiler group

Rematic 2945 - Multi boiler weather compensating controller with sequence control

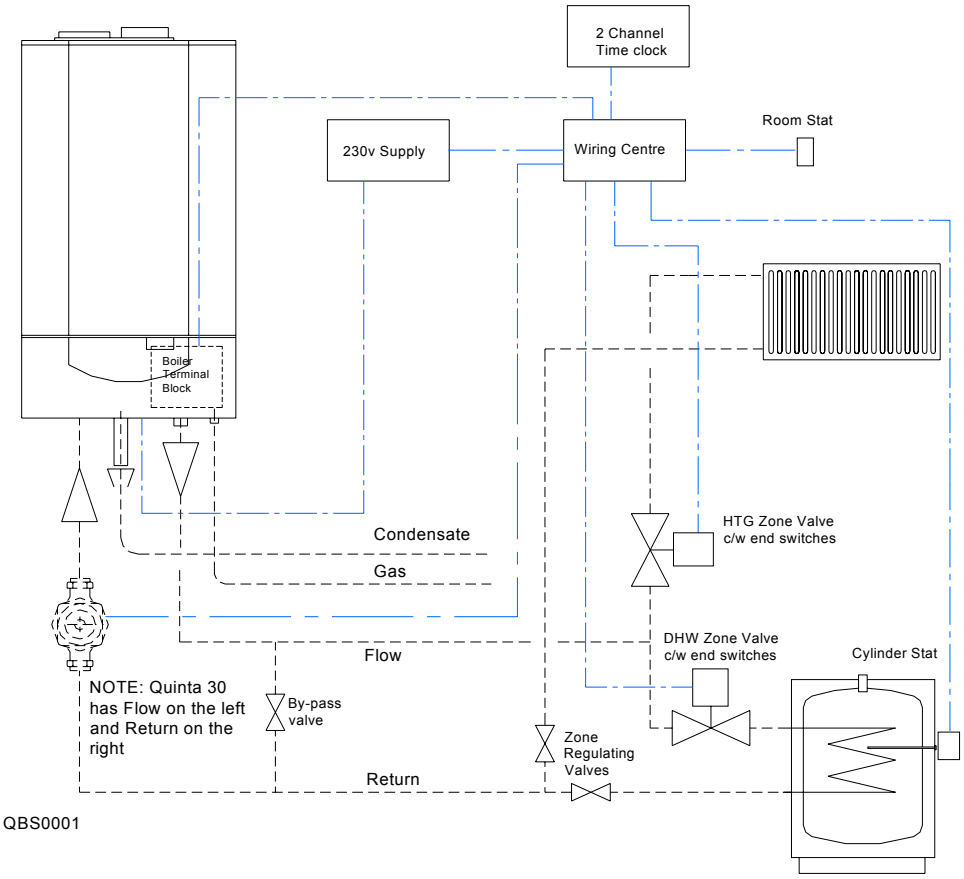
- Multi (up to 8) boiler optimiser compensator which can provide 2 timed heating zones and uses a combination of outside, flow and room temperature to vary the boiler output (flow temp) to suit weather conditions. Can also time control DHW.

Rematic 2945 control is mounted in one boiler, 7 day timer with 6 on/off periods, night set back, frost protection, and pump cycling protection. Control will sequence and rotate lead boiler on multiple installations

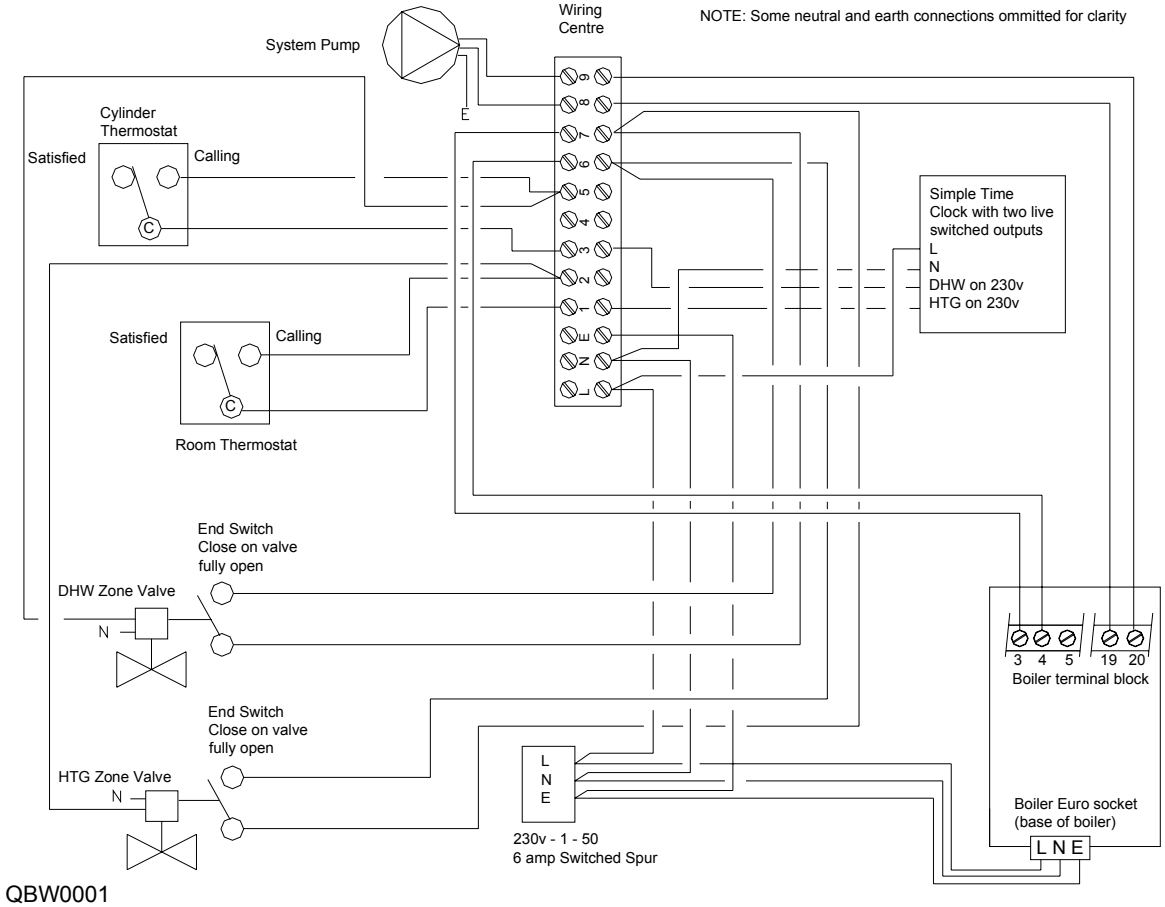
This controller also has the ability to accept a remote extension timer (not Broag supply) which will allow the heating system to run on day time compensation outside the normal timed settings without need for access or interference to boiler or controller. Ideal for school lettings / night classes etc.
(volt free and must include a 1.5k resistor in series).

Note: When using the external interlock function on multiple boilers be sure to maintain polarity to avoid unwanted feed back which will lead to faults occurring
It is unwise to use a combination of external and built in controls — in most cases there can be no interface between them it is likely they will ‘conflict’ with each other and neither will work properly .

Quinta Series single boiler HTG and DHW using a simple "S" plan layout



QBS0001



QBW0001

Simple Quinta Boiler domestic Installation — Typical "S" plan—Heating and DHW
(Time and Temp control by others)

Power Supply

- The boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler) socket is located on the underside of the boiler

Boiler Control Settings *(see section 6.5 in technical documentation)*

- Set boiler code 1. to required flow temp ie: 81 = 81ºC (system design requirements)
- Set boiler code A. to 11
- Use the zone valve end switches to provide the volt free switch pair on 3 and 4 to enable boiler.
- Boiler output will vary between 18% part load set point (code 7.) and 100% full load set point (code 6.) to achieve the boiler flow set point (code 1.)

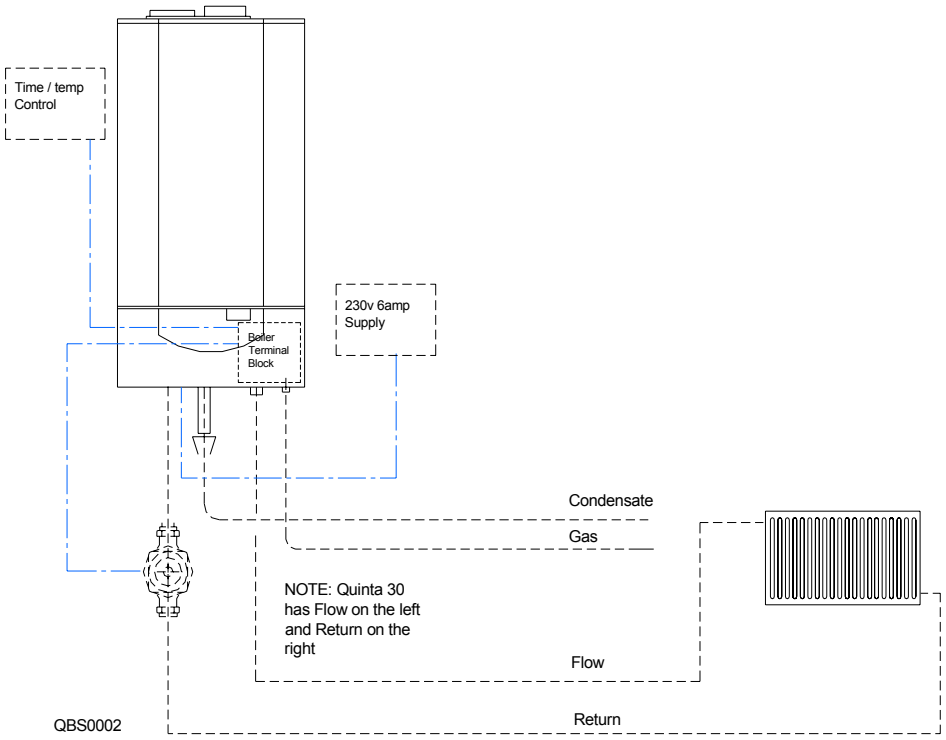
System Components (Not Broag supply)

- Simple two channel time clock providing, 230v switched supplies to control heating and domestic hot water eg. typical Honeywell ST699 or similar
- System pump
- Cylinder thermostat eg. typical Honeywell L641 or similar
- Room thermostat eg. typical Honeywell T6360 or similar
- HTG and DHW zone valves c/w a single end switch (closes on valve fully open) eg. Honeywell V4043H or similar
- Wiring centre

Note:

1. Maintain polarity on all connections
2. Some Neutral and Earth connections have been omitted for clarity
3. The schematic is for guidance only and does not constitute a design
4. Heating and hot water can be operated independently or simultaneously with this layout provided the control selected will allow it

Quinta Series single boiler HTG only



Boiler Flow (l/s) & Resistance (mbar) charts for various system Δ t

	Quinta 30 - Nom Output 28kW at 82/71		Quinta 45 - Nom Output 40kW at 82/71		Quinta 65 - Nom Output 61kW at 82/71		Quinta 85 - Nom Output 84kW at 82/71		Quinta 115 - Nom Output 107kW at 82/71	
System Δ t	Nom Flow l/s	Boiler resistance mbar	Nom Flow l/s	Boiler resistance mbar	Nom Flow l/s	Boiler resistance mbar	Nom Flow l/s	Boiler resistance mbar	Nom Flow l/s	Boiler resistance mbar
20	0.34	140	0.48	90	0.72	130	1.01	140	1.28	250
19	0.35	155	0.51	100	0.77	144	1.06	155	1.35	277
18	0.37	173	0.53	111	0.81	160	1.12	173	1.42	309
17	0.4	194	0.56	125	0.86	180	1.18	194	1.51	346
16	0.42	219	0.6	141	0.91	203	1.26	219	1.60	391
15	0.45	249	0.64	160	0.97	231	1.34	249	1.71	444
14	0.48	286	0.68	184	1.04	265	1.44	286	1.83	510
13	0.51	331	0.74	213	1.12	308	1.55	331	1.97	592
12	0.56	389	0.8	250	1.22	361	1.67	389	2.13	694
11	0.61	460	0.87	300	1.33	430	1.83	460	2.33	826
10	0.67	560	0.96	360	1.46	520	2.01	560	2.56	1000

Single Quinta Boiler, Heating only

(Time and temperature control by others)

Power Supply

- Boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler). Note: socket is located on the underside of the boiler

Boiler Interlocks *(for pressure switches etc.)*

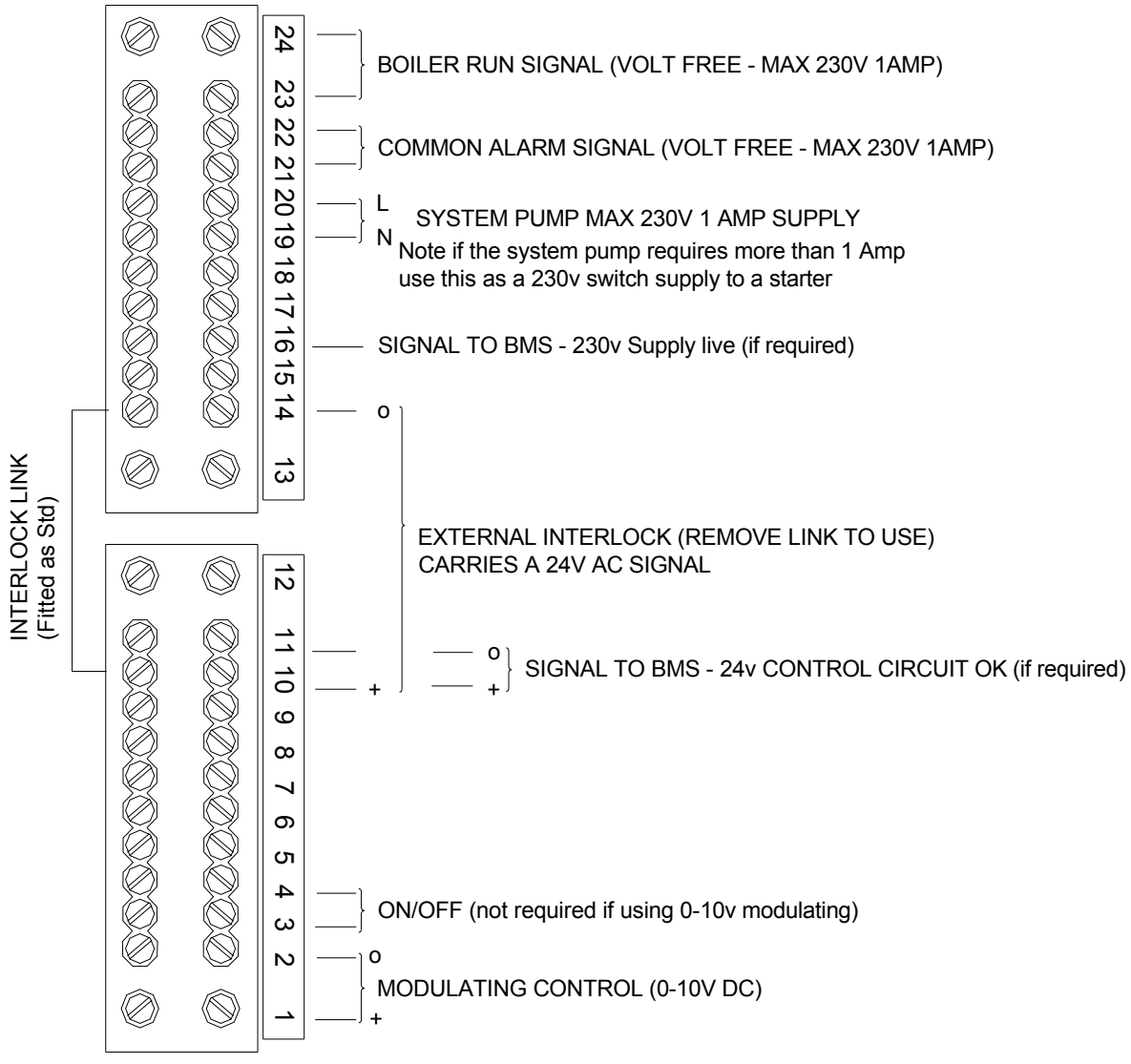
- Safety Interlock - Remove exist link and fit Volt free switch pair on 10-14. If circuit broken the boiler will go to a shut down mode displaying code b. 26. Will restart when circuit is closed

Indication Controls *(to report actual function)*

- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

Boiler Control Settings *(see section 6.5 in technical documentation)*

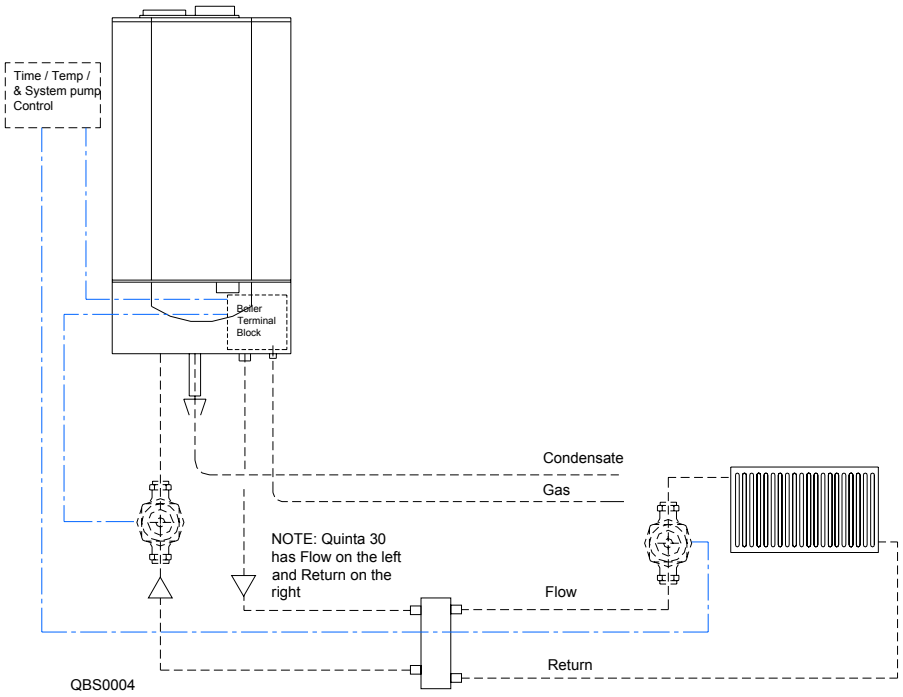
- Set boiler code 1. to required flow temp ie: 81 = 81ºC (system design requirements)
- For On/Off Control - Set boiler code A. to 12, One volt free switch pair on 3 and 4 required to enable boiler. Boiler output will vary between 18% part load set point (code A. 7.0.) and 100% full load set point A. (code 6.) to achieve the boiler flow set point (code 1.)
- For Modulating Control - Set boiler code A. to 42, for temperature output or code A. to 52 percentage output. A 0 -10 volt control signal required by others to enable the boiler and to perform the chosen control function


24 23 22 21 20 19 18 17 16 15 14 13
12 11 10 9 8 7 6 5 4 3 2 1
INTERLOCK LINK
(Fitted as Std)
BOILER RUN SIGNAL (VOLT FREE - MAX 230V 1AMP)
COMMON ALARM SIGNAL (VOLT FREE - MAX 230V 1AMP)
L
N
SYSTEM PUMP MAX 230V 1 AMP SUPPLY
Note if the system pump requires more than 1 Amp
use this as a 230v switch supply to a starter
SIGNAL TO BMS - 230v Supply live (if required)
o
EXTERNAL INTERLOCK (REMOVE LINK TO USE)
CARRIES A 24V AC SIGNAL
o
+
SIGNAL TO BMS - 24v CONTROL CIRCUIT OK (if required)
ON/OFF (not required if using 0-10v modulating)
o
MODULATING CONTROL (0-10V DC)
+

QBW0002-A

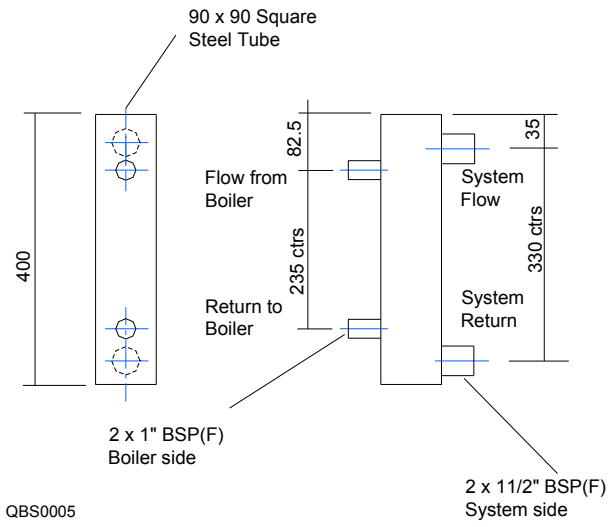
NOTE: Quinta 30 terminal numbers are reversed

Quinta Series single boiler HTG only with low loss header and pump kit

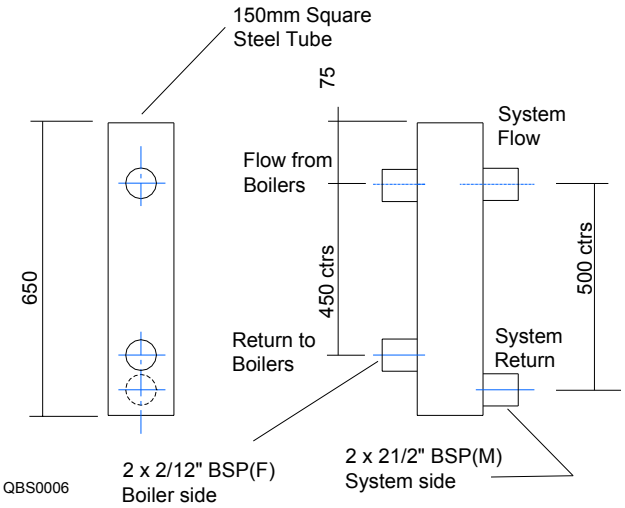


Particularly suitable for refurbishment projects where existing system pump/s are to be retained. For multi zone applications split the flow after the header and common up the returns to the header

Quinta 30/45/65 Single Boiler header



Quinta 85/115 Single and Two Boiler header



Single Quinta Boiler, Heating only with a low loss header and pump kit

(Time and temperature and system pump control by others)

Power Supply

- Boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler). Note: socket is located on the underside of the boiler

Boiler Interlocks *(for pressure switches etc.)*

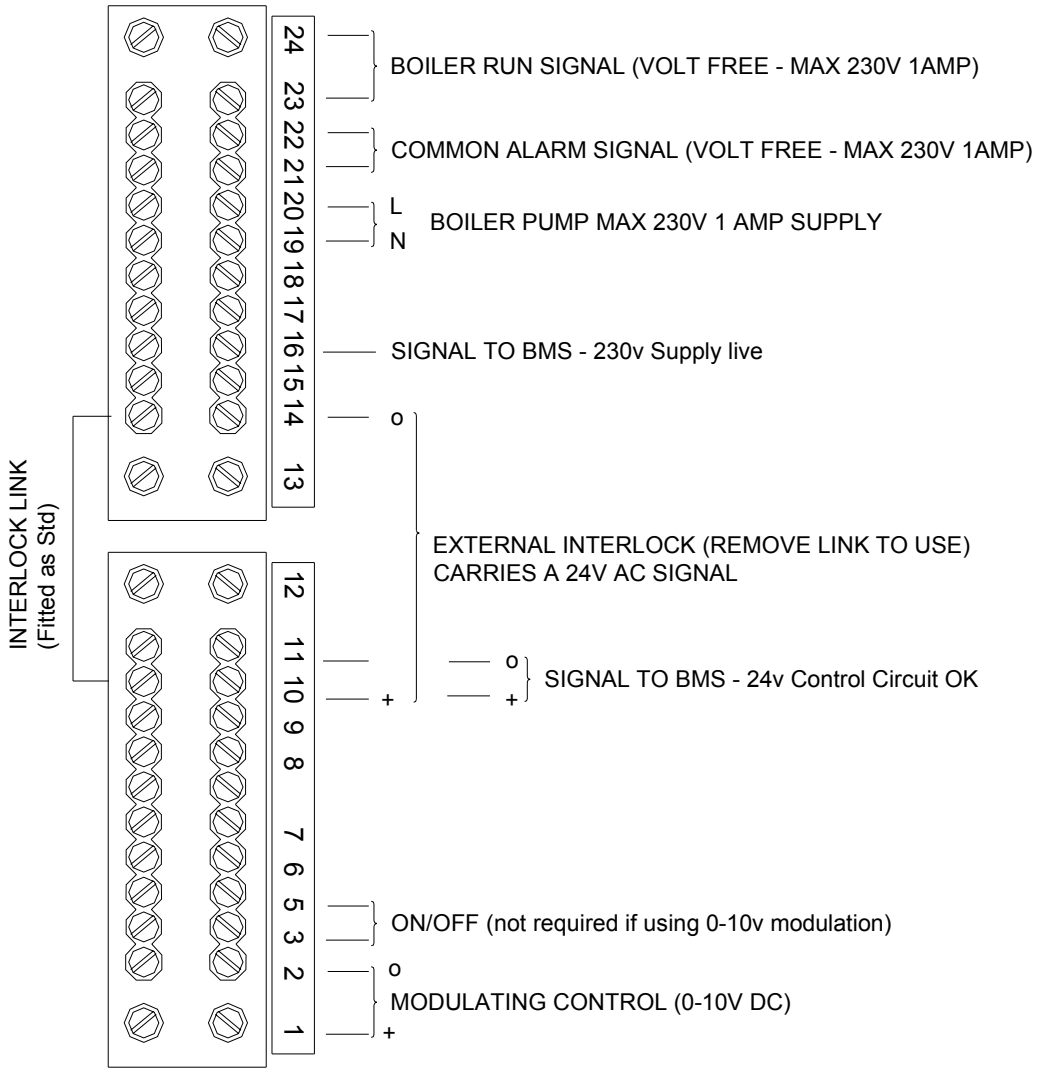
- Safety Interlock - Remove exist link and fit Volt free switch pair on 10-14. If circuit broken the boiler will go to a shut down mode displaying code [b.] [26]. Will restart when circuit is closed

Indication Controls *(to report actual function)*

- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

Boiler Control Settings *(see section 6.5 in technical documentation)*

- Set boiler code [1.] to required flow temp ie: [81] = 81ºC (system design requirements)
- For On/Off Control - Set boiler code [A.] to [12], One volt free switch pair on 3 and 4 required to enable boiler. Boiler output will vary between 18% part load set point (code A. [7.0.]) and 100% full load set point A. (code [6.]) to achieve the boiler flow set point (code 1)
- For Modulating Control - Set boiler code [A.] to [42], for temperature output or code [A.] to [52] for percentage output. A 0-10 volt control signal required by others to enable the boiler and to perform the chosen control function

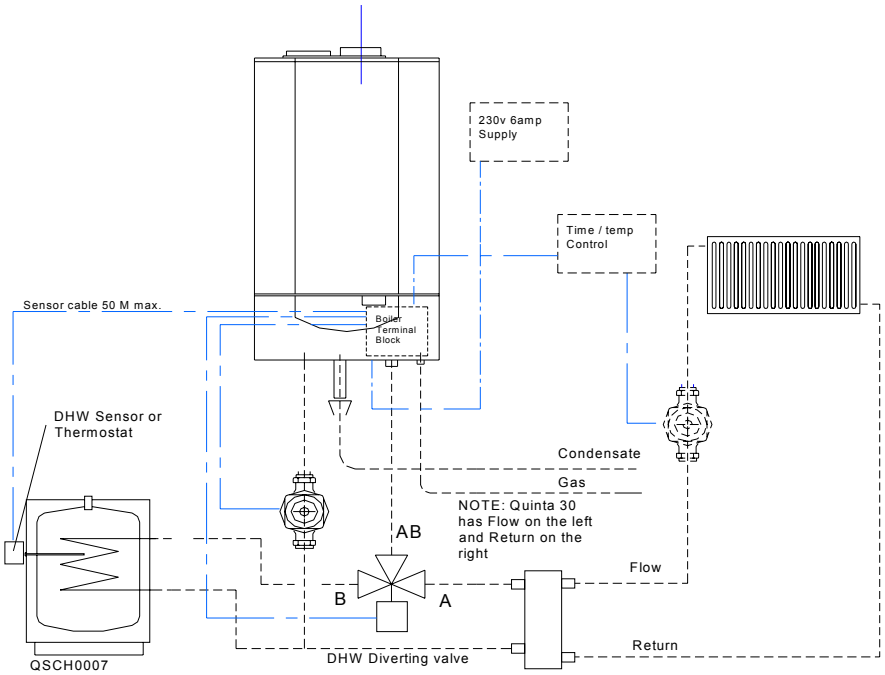


QBW0002-B

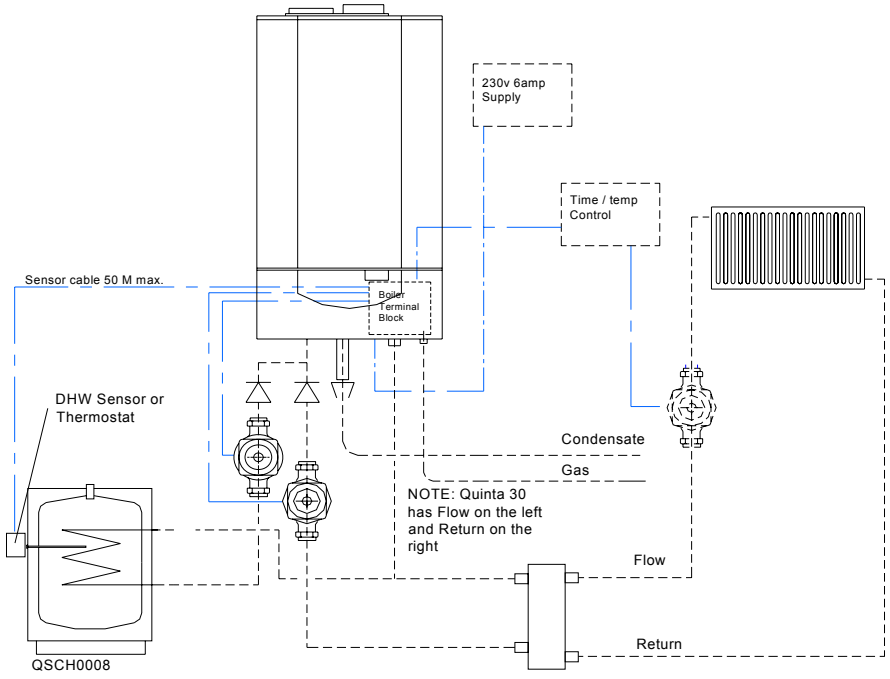
NOTE: Quinta 30 terminal numbers are reversed

Quinta Series single boiler HTG & Priority DHW with low loss header

Three way valve DHW priority for Quinta 30 / 45 and 65 only



Pump option DHW priority can be used on all Quinta range



NOTE:
When using the Broag supplied Low loss header & pump kit and the DHW diverting valve or Primary pump kit the calorifier must be sited within 3M of the boiler. In both cases the DHW cylinder must be a high recovery unit capable of accepting the full or adjusted (ref boiler code C) DHW output of the boiler being used , except when using the Quinta 30 when a standard domestic unit may be used provided the boiler's DHW output is limited to 15kW (code C set to25)

Single Quinta Boiler, Heating & Priority DHW using a Low Loss header

(Heating Time and temperature control by others with DHW available 24/7 temperature control by boiler)

Power Supply

- Boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler). Note: socket is located on the underside of the boiler

Boiler Interlocks *(for pressure switches etc.)*

- Safety Interlock - Remove exist link and fit Volt free switch pair on 10-14. If circuit broken the boiler will go to a shut down mode displaying code b. 26. Will restart when circuit is closed

Indication Controls *(to report actual function)*

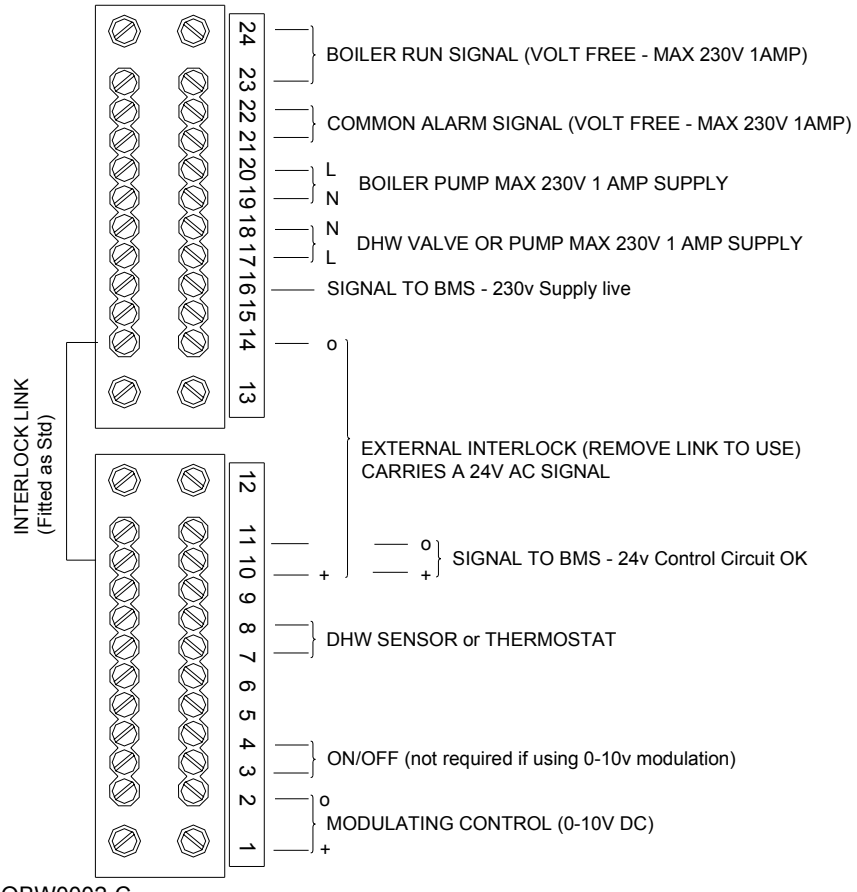
- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

Boiler Control Settings *(see section 6.5 in technical documentation)*

- Set boiler code 1. to required flow temp ie: 81 = 81ºC (system design requirements)
- Set boiler code A. to 11, Internal modulation - HTG on DHW on
-

Fitting the Control

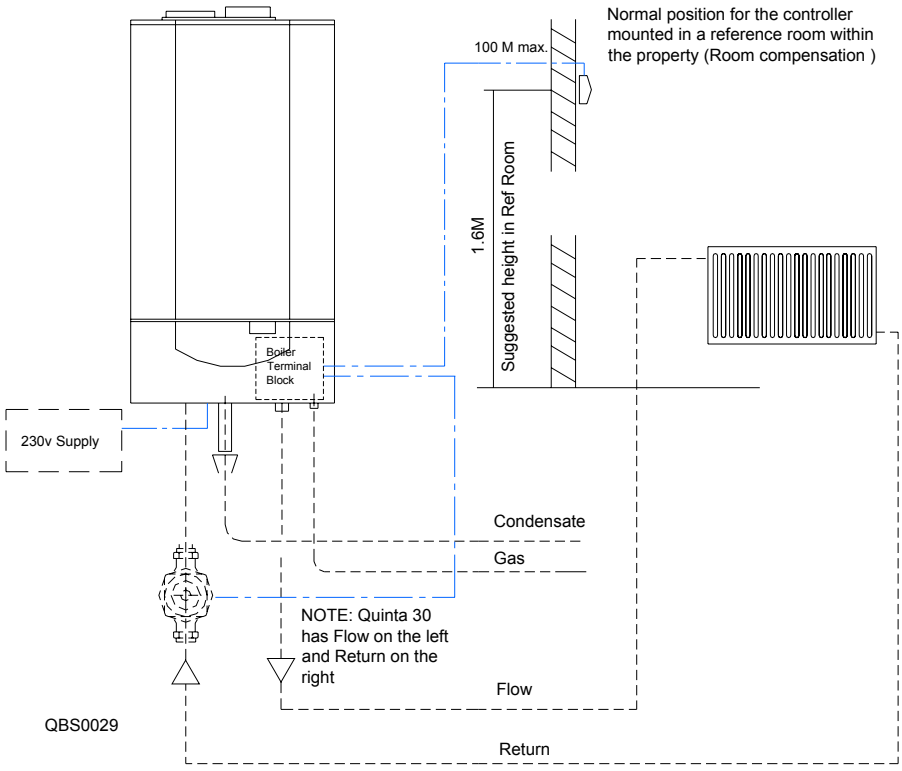
- Fit the control in a normally occupied reference room within the building being heated
- The boiler's internal wiring harness must be altered for the control to be recognised - Please refer to the instructions supplied with the control package
- Set up the controller to suit the design requirements and occupancy times for HTG in accordance with the instruction documents supplied
- DHW Control, Diverting valve option - Set boiler code J. to 00, (A=HTG and B=DHW), set Primary Pump option - Set boiler code J. to 01, set required DHW secondary temperature code 3 to required temp ie: 55 = 55ºC
- DHW Control, Primary Pump option – Set boiler code J. to 01, set required DHW secondary temperature code 3 to required temp ie: 55 = 55ºC



QBW0002-C

NOTE: Quinta 30 terminal numbers are reversed

Quinta Series single boiler HTG only room compensation using the Celcia 20


Normal position for the controller mounted in a reference room within the property (Room compensation)
100 M max.
1.6M
Suggested height in Ref Room
Boiler Terminal Block
230v Supply
Condensate
Gas
NOTE: Quinta 30 has Flow on the left and Return on the right
Flow
QBS0029
Return

Boiler Flow (l/s) & Resistance (mbar) charts for various system Δ t

	Quinta 30 - Nom Output 28kW at 82/71		Quinta 45 - Nom Output 40kW at 82/71		Quinta 65 - Nom Output 61kW at 82/71		Quinta 85 - Nom Output 84kW at 82/71		Quinta 115 - Nom Output 107kW at 82/71	
System Δ t	**Nom Flow l/s**	**Boiler resistance mbar**	**Nom Flow l/s**	**Boiler resistance mbar**	**Nom Flow l/s**	**Boiler resistance mbar**	**Nom Flow l/s**	**Boiler resistance mbar**	**Nom Flow l/s**	**Boiler resistance mbar**
20	0.34	140	0.48	90	0.72	130	1.01	140	1.28	250
19	0.35	155	0.51	100	0.77	144	1.06	155	1.35	277
18	0.37	173	0.53	111	0.81	160	1.12	173	1.42	309
17	0.4	194	0.56	125	0.86	180	1.18	194	1.51	346
16	0.42	219	0.6	141	0.91	203	1.26	219	1.60	391
15	0.45	249	0.64	160	0.97	231	1.34	249	1.71	444
14	0.48	286	0.68	184	1.04	265	1.44	286	1.83	510
13	0.51	331	0.74	213	1.12	308	1.55	331	1.97	592
12	0.56	389	0.8	250	1.22	361	1.67	389	2.13	694
11	0.61	460	0.87	300	1.33	430	1.83	460	2.33	826
10	0.67	560	0.96	360	1.46	520	2.01	560	2.56	1000

Single Quinta Boiler, Heating only Room compensation using the Celcia 20 control

(Timed/Compensated HTG)

Power Supply

- Boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler). Note: socket is located on the underside of the boiler

Boiler Interlocks *(for pressure switches etc.)*

- Safety Interlock - Remove exist link and fit Volt free switch pair on 10 -14. If circuit broken the boiler will go to a shut down mode displaying code [b.] [2][6]. Will restart when circuit is closed

Indication Controls *(to report actual function)*

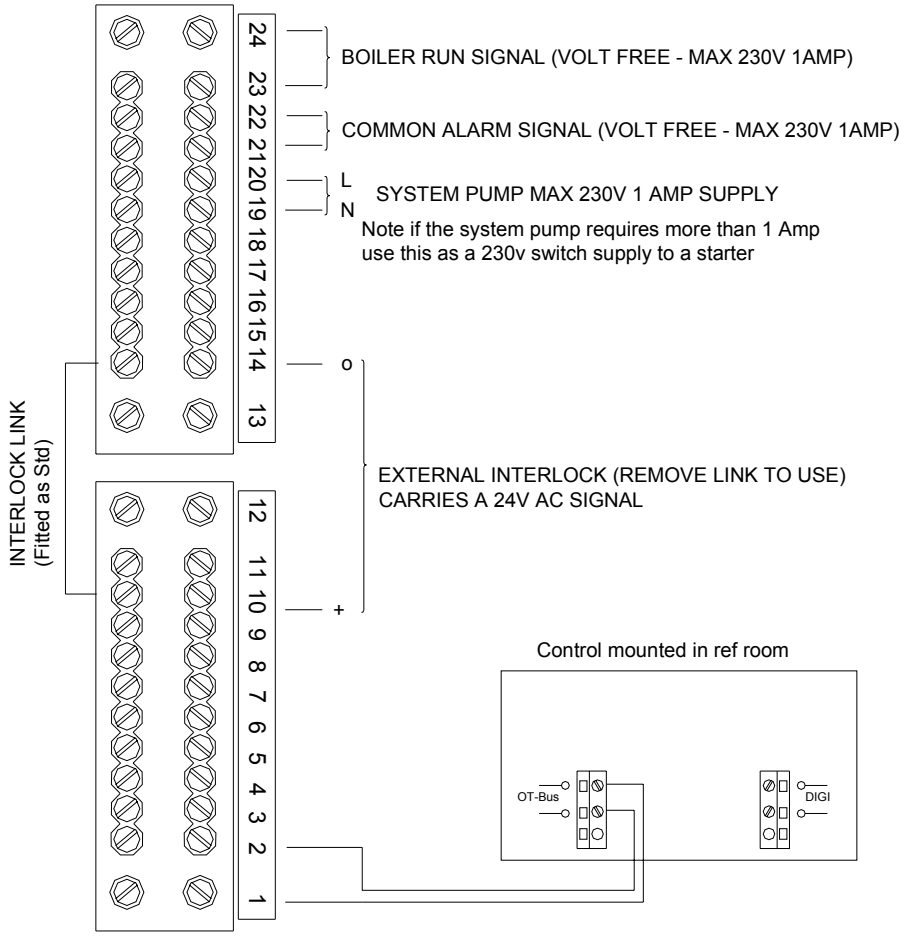
- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

Boiler Control Settings *(see section 6.5 in technical documentation)*

- Set boiler code ! to required flow temp ie: [8][1] = 81ºC (system design requirements)
- Set boiler code [A.] to [1][2], Internal modulation - HTG on DHW off
- Set boiler Interface selection code 9. (to [0][0] (Internal Interface)

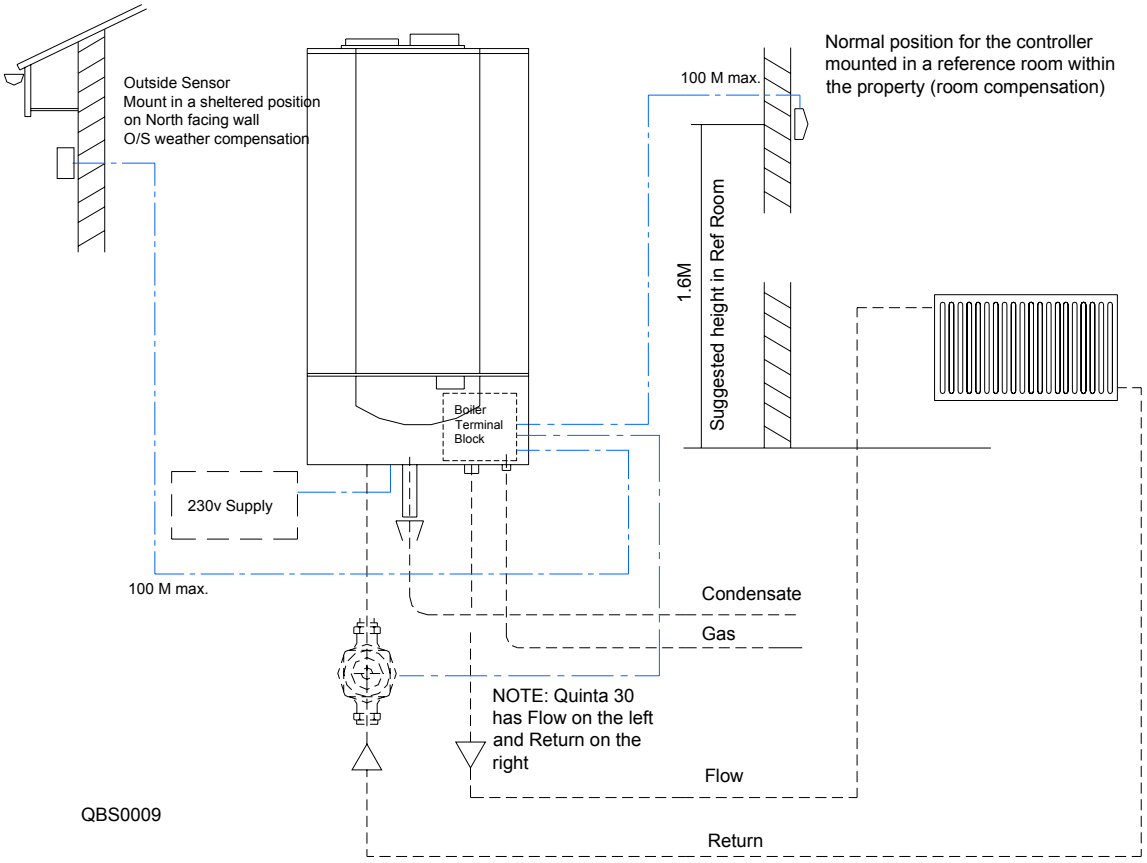
Fitting the Control

- Fit the control in a normally occupied reference room within the building being heated
- The boiler's internal wiring harness must be altered for the control to be recognised - Please refer to the instructions supplied with the control package
- Set up the controller to suit the design requirements and occupancy times for HTG in accordance with the instruction documents supplied


24 23 22 21 20 19 18 17 16 15 14 13
12 11 10 9 8 7 6 5 4 3 2 1
BOILER RUN SIGNAL (VOLT FREE - MAX 230V 1AMP)
COMMON ALARM SIGNAL (VOLT FREE - MAX 230V 1AMP)
L
N
SYSTEM PUMP MAX 230V 1 AMP SUPPLY
Note if the system pump requires more than 1 Amp use this as a 230v switch supply to a starter
INTERLOCK LINK (Fitted as Std)
o
+
EXTERNAL INTERLOCK (REMOVE LINK TO USE) CARRIES A 24V AC SIGNAL
Control mounted in ref room
OT-Bus
DIGI

QBW0017 NOTE: Quinta 30 terminal numbers are reversed

Quinta Series single boiler HTG only outside weather compensation



Boiler Flow (l/s) & Resistance (mbar) charts for various system Δ t

	Quinta 30 - Nom Output 28kW at 82/71		Quinta 45 - Nom Output 40kW at 82/71		Quinta 65 - Nom Output 61kW at 82/71		Quinta 85 - Nom Output 84kW at 82/71		Quinta 115 - Nom Output 107kW at 82/71	
System Δ t	**Nom Flow l/s**	**Boiler resistance mbar**	**Nom Flow l/s**	**Boiler resistance mbar**	**Nom Flow l/s**	**Boiler resistance mbar**	**Nom Flow l/s**	**Boiler resistance mbar**	**Nom Flow l/s**	**Boiler resistance mbar**
20	0.34	140	0.48	90	0.72	130	1.01	140	1.28	250
19	0.35	155	0.51	100	0.77	144	1.06	155	1.35	277
18	0.37	173	0.53	111	0.81	160	1.12	173	1.42	309
17	0.4	194	0.56	125	0.86	180	1.18	194	1.51	346
16	0.42	219	0.6	141	0.91	203	1.26	219	1.60	391
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12	0.56	389	0.8	250	1.22	361	1.67	389	2.13	694
11	0.61	460	0.87	300	1.33	430	1.83	460	2.33	826
10	0.67	560	0.96	360	1.46	520	2.01	560	2.56	1000

Single Quinta Boiler, Heating only outside weather compensation with Celcia 20

(Optimising/Weather compensated HTG)

Power Supply

- Boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler). Note: socket is located on the underside of the boiler

Boiler Interlocks *(for pressure switches etc.)*

- Safety Interlock - Remove exist link and fit Volt free switch pair on 10-14. If circuit broken the boiler will go to a shut down mode displaying code [b.] [2][6]. Will restart when circuit is closed

Indication Controls *(to report actual function)*

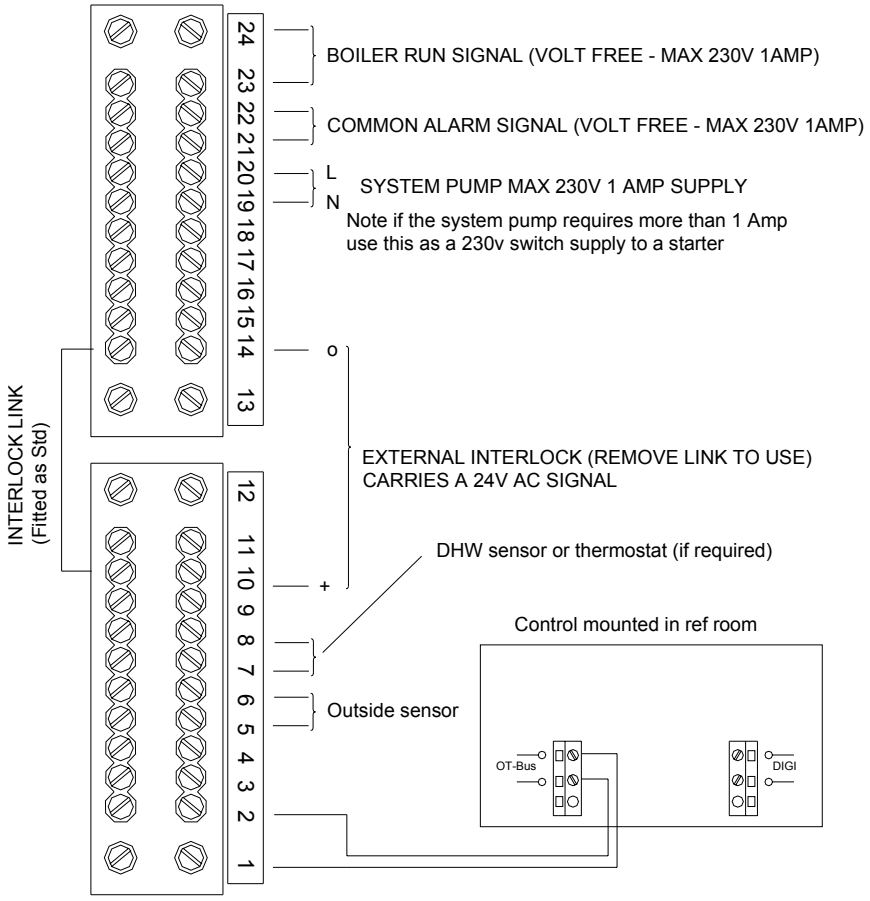
- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

Boiler Control Settings *(see section 6.5 in technical documentation)*

- Set boiler code ! to required flow temp ie: [8][1] = 81ºC (system design requirements)
- Set boiler code [A.] to [1][2], Internal modulation - HTG on DHW off
- Set boiler Interface selection code 9. (to [0][0] (Internal Interface)

Fitting the Control

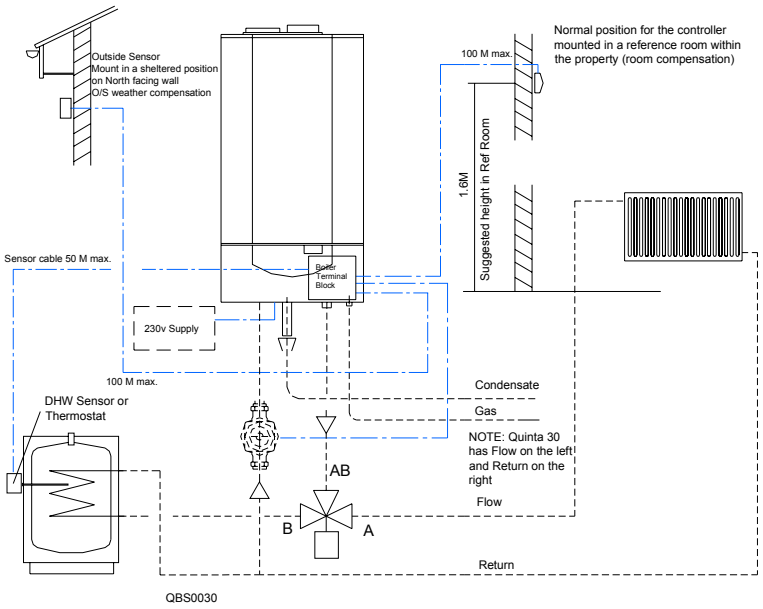
- Fit the control in a normally occupied reference room within the building being heated
- The boiler's internal wiring harness must be altered for the control to be recognised - Please refer to the instructions supplied with the control package
- Install the outside sensor (ZAF 250) on a North facing wall in a sheltered position and connect to terminals 5 and 6
- Set up the controller to suit the design requirements and occupancy times for HTG in accordance with the instruction documents supplied


24 23 22 21 20 19 18 17 16 15 14 13
12 11 10 9 8 7 6 5 4 3 2 1
BOILER RUN SIGNAL (VOLT FREE - MAX 230V 1AMP)
COMMON ALARM SIGNAL (VOLT FREE - MAX 230V 1AMP)
L
N
SYSTEM PUMP MAX 230V 1 AMP SUPPLY
Note if the system pump requires more than 1 Amp
use this as a 230v switch supply to a starter
INTERLOCK LINK
(Fitted as Std)
o
+
EXTERNAL INTERLOCK (REMOVE LINK TO USE)
CARRIES A 24V AC SIGNAL
DHW sensor or thermostat (if required)
Control mounted in ref room
Outside sensor
OT-Bus
DIGI

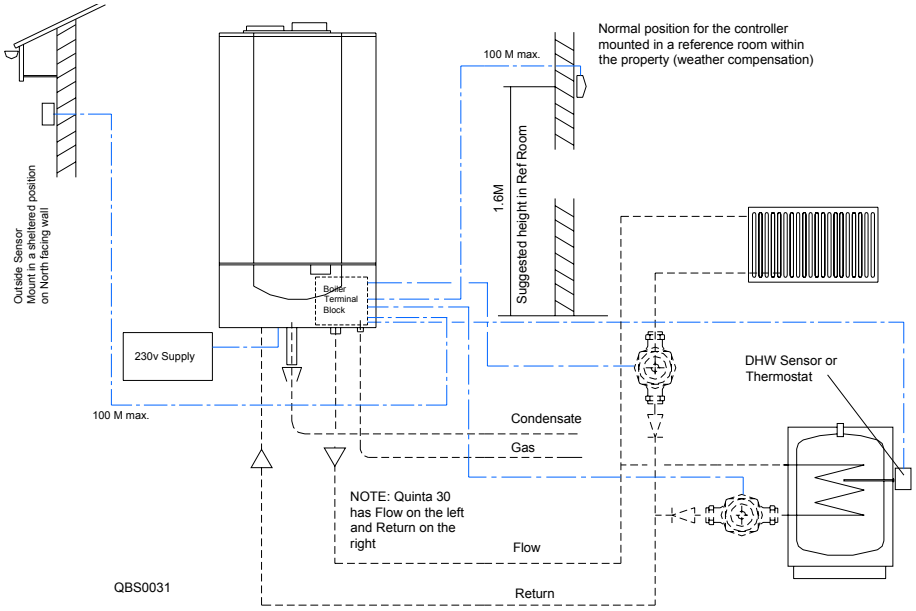
QBW0018 NOTE: Quinta 30 terminal numbers are reversed

Quinta Series single boiler HTG with DHW priority
Heating = room or outside weather compensated with the Celcia 20

Three way valve DHW priority for Quinta 30 / 45 and 65 only



Pump option DHW priority can be used on all Quinta range



NOTE:
For room compensation only outside sensor is not required — fit O/S sensor (ZAF 250) for outside weather compensation
The DHW cylinder must be a high recovery unit capable of accepting the full or adjusted DHW output of the boiler being used boiler code C , except when using the Quinta 30 when a standard domestic unit may be used provided the boiler's DHW output is limited to 15kW (code C set to25)
When not using a Low Loss header the heating and DHW pumps must be capable of overcoming the combined resistance of the boiler, system pipework and heat emitters.
By using a Low Loss header layout as detailed on page 18 the pumps can be sized without an allowance for the boiler resistance (particularly useful on refurbishment projects)
Non return valves should be used to prevent circulation where not required
If thermostatic valves are used on the heating system a bypass my be necessary to prevent the pump from operating against a closed head should they all be closed (alternately do not fit a TRV on one of the radiators in the system)

Single Quinta Boiler, room or weather compensated Heating with Priority DHW using the Celcia 20

(Optimising/Weather compensated HTG with timed DHW)

Power Supply

- Boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler). Note: socket is located on the underside of the boiler

Boiler Interlocks *(for pressure switches etc.)*

- Safety Interlock - Remove exist link and fit Volt free switch pair on 10-14. If circuit broken the boiler will go to a shut down mode displaying code [b.] [2][6]. Will restart when circuit is closed

Indication Controls *(to report actual function)*

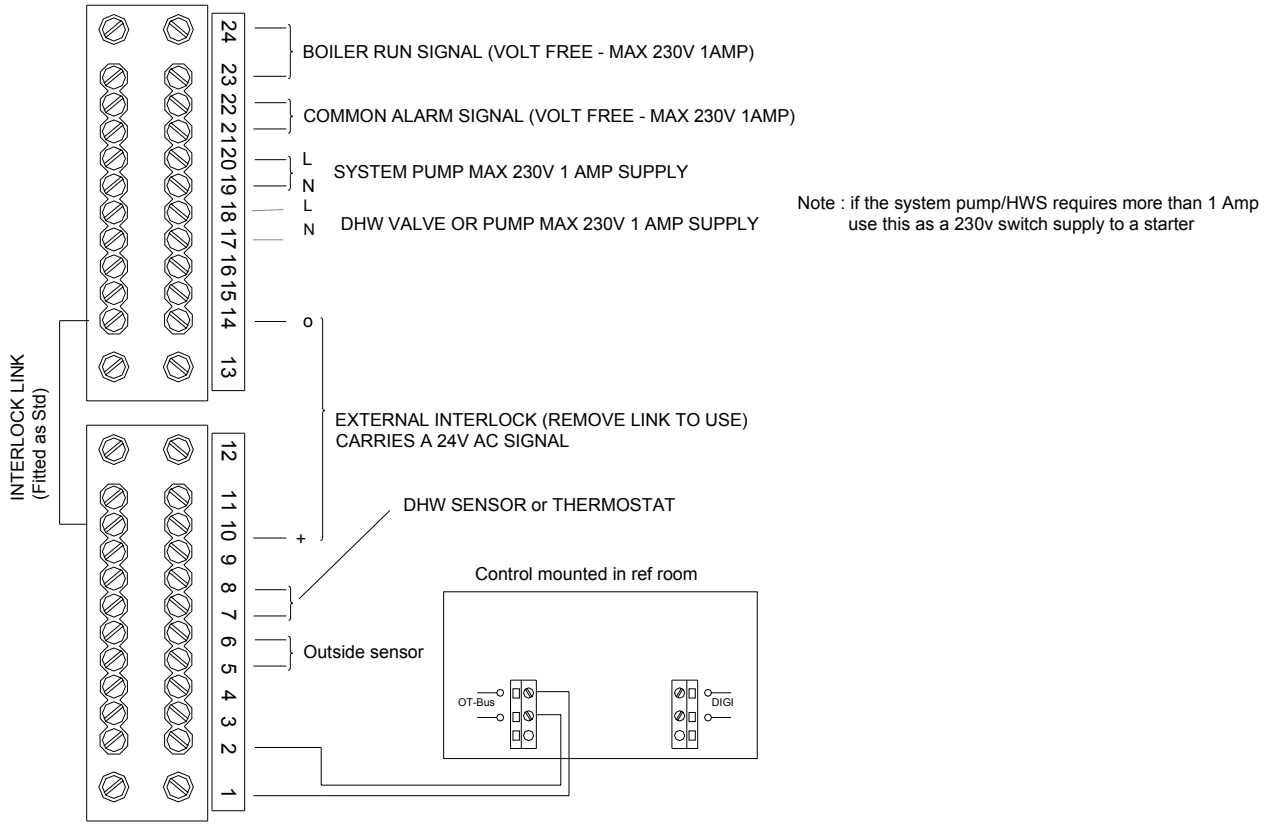
- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

Boiler Control Settings *(see section 6.5 in technical documentation)*

- Set boiler code [1.] to required flow temp ie: [8][1] = 81ºC (system design requirements)
- Set boiler code [A.] to [1][1], Internal modulation - HTG on DHW on
- Set boiler Interface selection code [9.] to [0][0] (Internal Only)

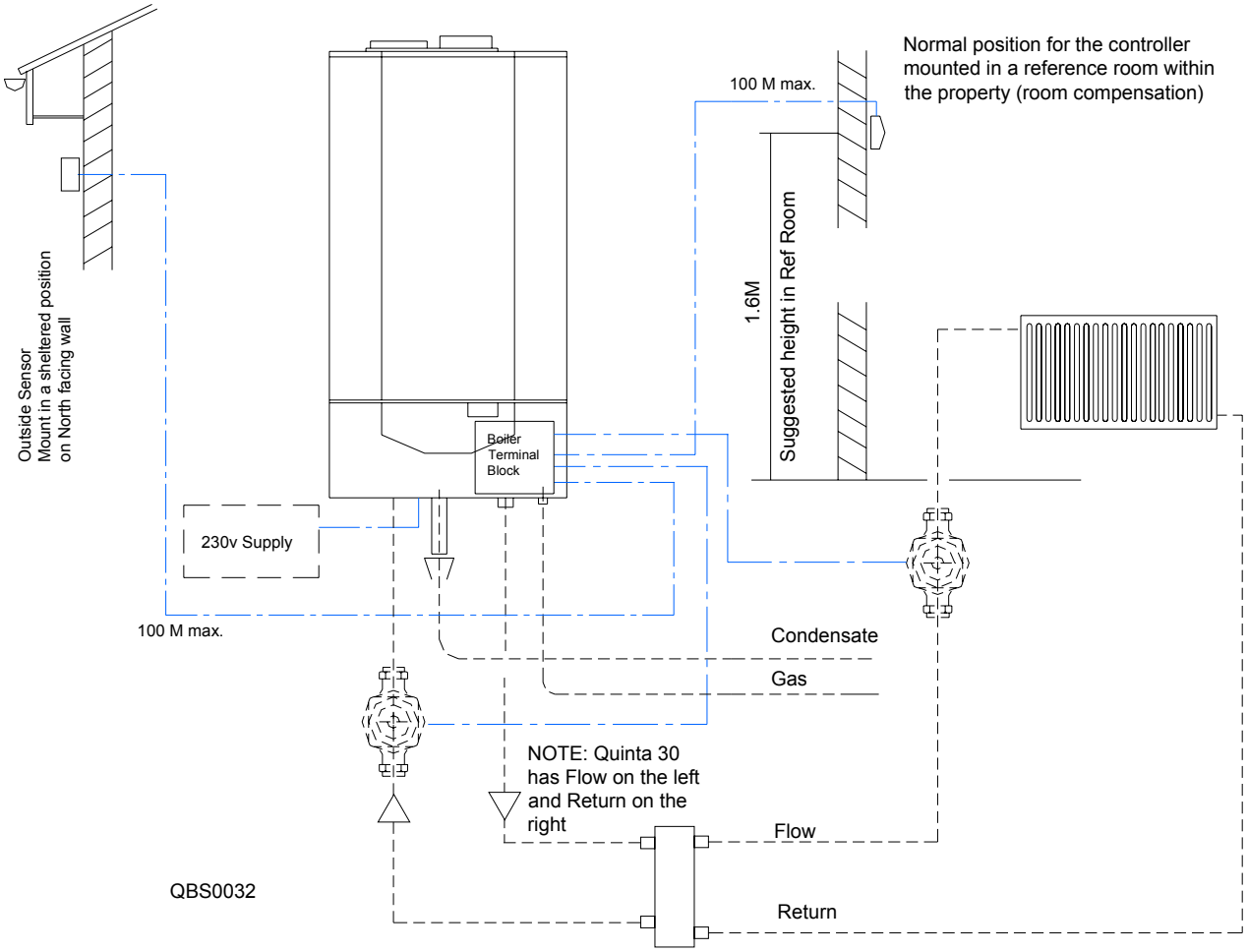
Fitting the Control

- Fit the control in a normally occupied reference room within the building being heated
- The boiler's internal wiring harness must be altered for the control to be recognised - Please refer to the instructions supplied with the control package
- Set up the controller to suit the design requirements and occupancy times for HTG in accordance with the instruction documents supplied
- Install the outside sensor (ZAF 250) on a North facing wall in a sheltered position and connect to terminals 5 and 6
- DHW Control, Diverting valve option - Set boiler code [J.] to [0][0], (A=HTG and B=DHW), set Primary Pump option - Set boiler code [J.] to [0][1], set required DHW secondary temperature code [3] to required temp ie: [5][5] = 55ºC


24 23 22 21 20 19 18 17 16 15 14 13
12 11 10 9 8 7 6 5 4 3 2 1
BOILER RUN SIGNAL (VOLT FREE - MAX 230V 1AMP)
COMMON ALARM SIGNAL (VOLT FREE - MAX 230V 1AMP)
L
N
SYSTEM PUMP MAX 230V 1 AMP SUPPLY
L
N
DHW VALVE OR PUMP MAX 230V 1 AMP SUPPLY
Note : if the system pump/HWS requires more than 1 Amp use this as a 230v switch supply to a starter
o
EXTERNAL INTERLOCK (REMOVE LINK TO USE)
CARRIES A 24V AC SIGNAL
INTERLOCK LINK
(Fitted as Std)
DHW SENSOR or THERMOSTAT
+
Control mounted in ref room
Outside sensor
OT-Bus
DIGI

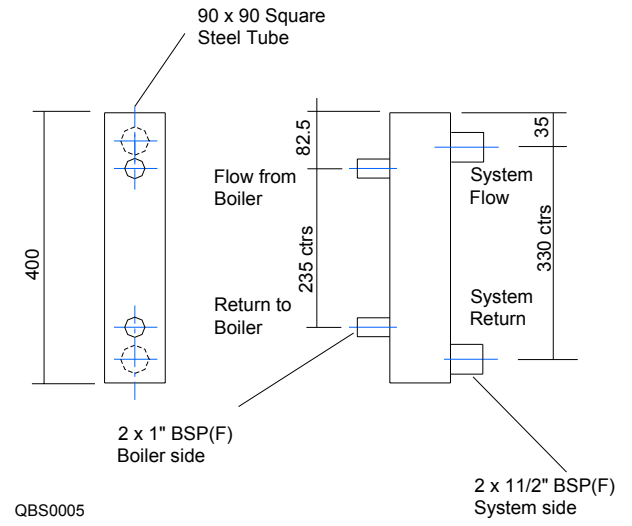
QBW0018 NOTE: Quinta 30 terminal numbers are reversed

Quinta Series single boiler HTG only using a low loss header Heating—room or outside weather compensated with the Celcia 20

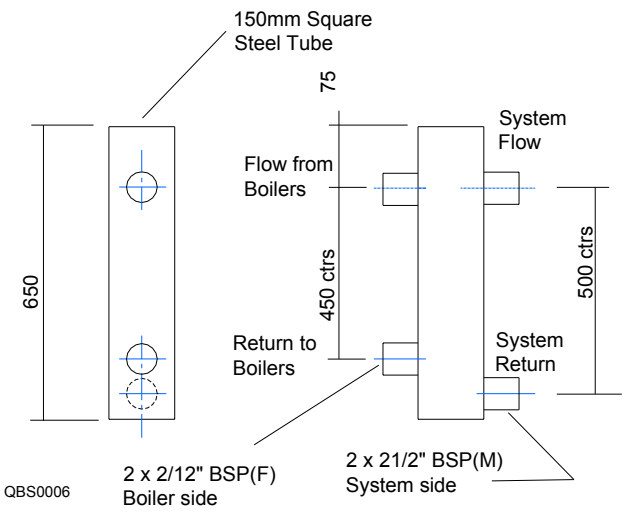

Normal position for the controller mounted in a reference room within the property (room compensation)
100 M max.
1.6M
Suggested height in Ref Room
Outside Sensor
Mount in a sheltered position on North facing wall
Boiler Terminal Block
230v Supply
100 M max.
Condensate
Gas
NOTE: Quinta 30 has Flow on the left and Return on the right
Flow
Return
QBS0032

Particularly suitable for refurbishment projects where existing system pump/s are to be retained. For multi zone applications split the flow after the header and common up the returns to the header.
Note: System pump is controlled using a switch signal from the same connections as the boiler pump terminal strip Nos 19 and 20, if the combined rating of both pumps is more than 1 amp a starter must be used on the system pump

Quinta 30/45/65 Single Boiler header



Quinta 85 /115 Single Boiler header



Single Quinta Boiler, room or weather compensated Heating only using a low loss header and pump kit with the Celcia 20 *(Optimising/Weather compensated HTG)*

Power Supply

- Boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler). Note: socket is located on the underside of the boiler

Boiler Interlocks *(for pressure switches etc.)*

- Safety Interlock - Remove exist link and fit Volt free switch pair on 10-14. If circuit broken the boiler will go to a shut down mode displaying code b. 26. Will restart when circuit is closed

Indication Controls *(to report actual function)*

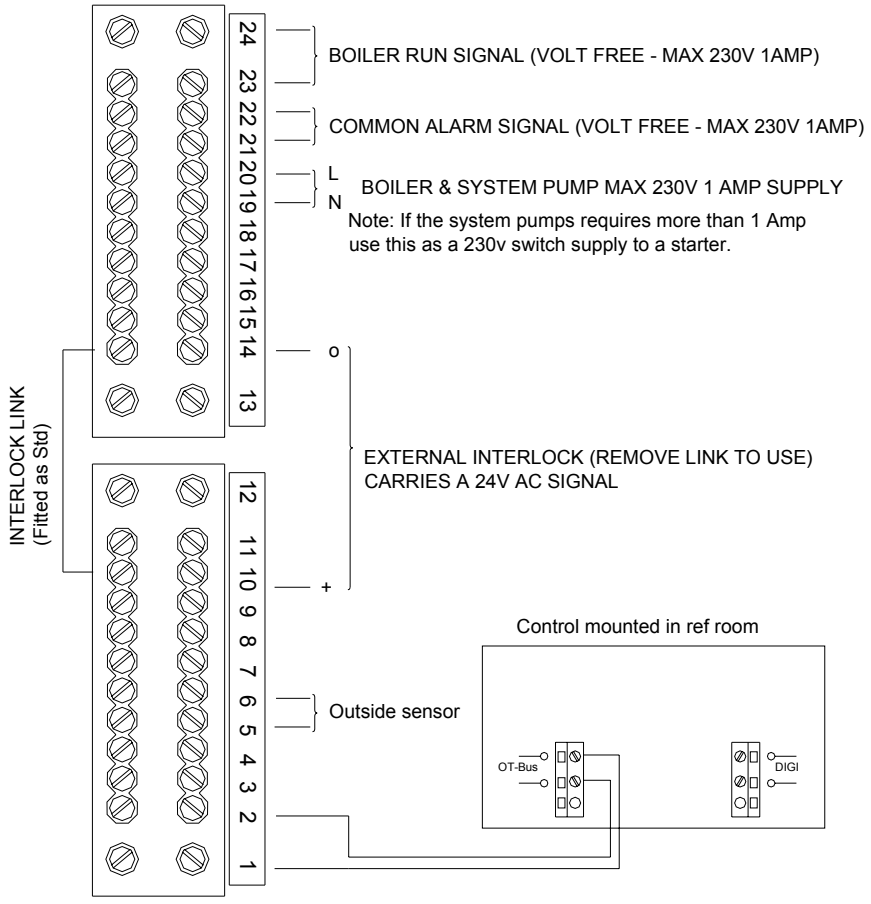
- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

Boiler Control Settings *(see section 6.5 in technical documentation)*

- Set boiler code 1. to required flow temp ie: 81 = 81ºC (system design requirements)
- Set boiler code A. to 12, Internal modulation - HTG on DHW off
- Set boiler code 2 to 15,pump run on to 15 minutes
- Set boiler Interface selection code 9. (to 00 (Internal Interface)

Fitting the Control

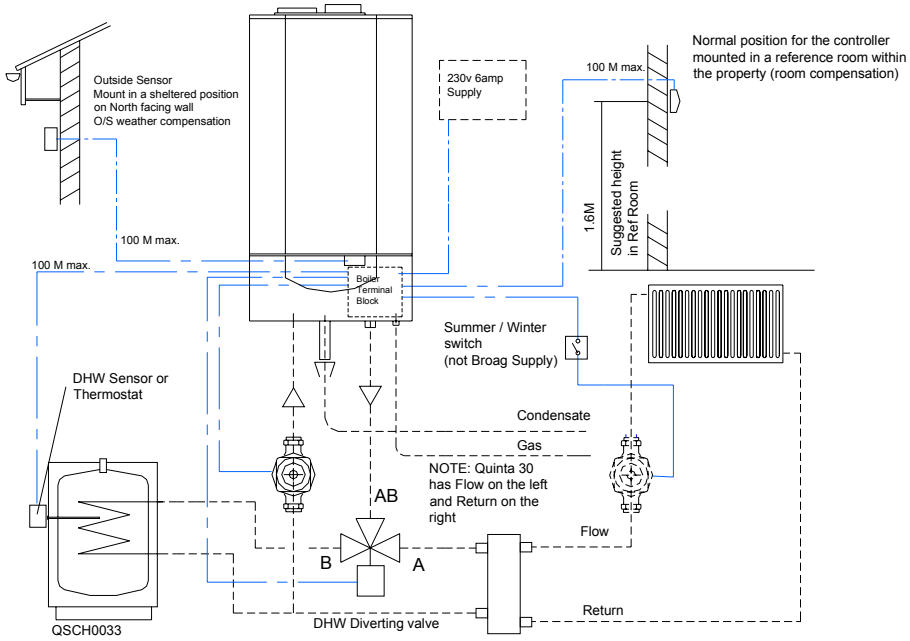
- Fit the control in a normally occupied reference room within the building being heated
- The boiler's internal wiring harness must be altered for the control to be recognised - Please refer to the instructions supplied with the control package
- Install the outside sensor (ZAF 250) on a North facing wall in a sheltered position and connect to terminals 5 and 6
- Set up the controller to suit the design requirements and occupancy times for HTG in accordance with the instruction documents supplied


24 23 22 21 20 19 18 17 16 15 14 13
12 11 10 9 8 7 6 5 4 3 2 1
BOILER RUN SIGNAL (VOLT FREE - MAX 230V 1AMP)
COMMON ALARM SIGNAL (VOLT FREE - MAX 230V 1AMP)
L
N
BOILER & SYSTEM PUMP MAX 230V 1 AMP SUPPLY
Note: If the system pumps requires more than 1 Amp
use this as a 230v switch supply to a starter.
INTERLOCK LINK
(Fitted as Std)
o
+
EXTERNAL INTERLOCK (REMOVE LINK TO USE)
CARRIES A 24V AC SIGNAL
Control mounted in ref room
Outside sensor
OT-Bus
DIGI

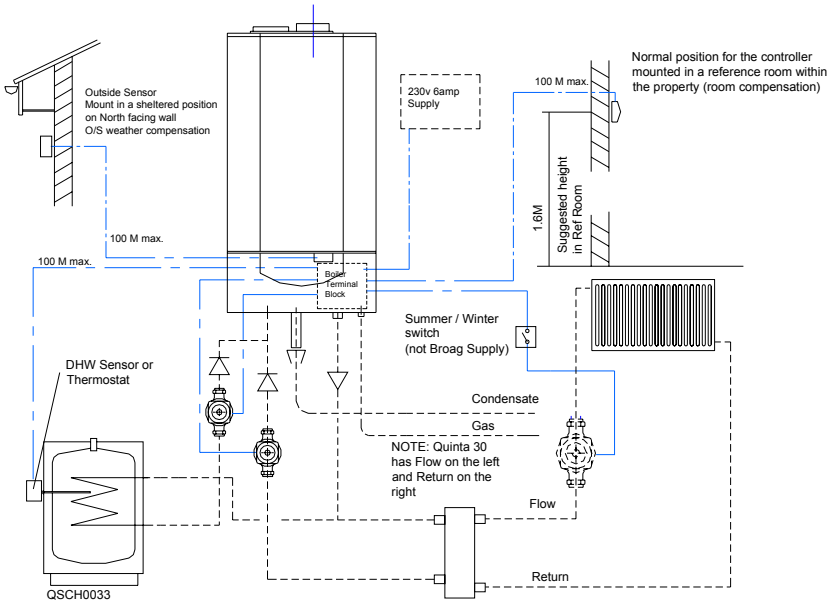
QBW0021 NOTE: Quinta 30 terminal numbers are reversed

Quinta Series single boiler HTG & DHW using a low loss header Heating—room or outside weather compensated with the Celcia 20

Three way valve DHW priority for Quinta 30 / 45 and 65 only



Pump option DHW priority can be used on all Quinta range



NOTE:
For room compensation only outside sensor is not required — fit O/S sensor (ZAF 250) for outside weather compensation
The DHW cylinder must be a high recovery unit capable of accepting the full or adjusted DHW output of the boiler being used boiler code C , except when using the Quinta 30 when a standard domestic unit may be used provided the boiler's DHW output is limited to 15kW (code C set to25)
When not using a Low Loss header the heating and DHW pumps must be capable of overcoming the combined resistance of the boiler, system pipework and heat emitters.
By using a Low Loss header layout as detailed on page 18 the pumps can be sized without an allowance for the boiler resistance (particularly useful on refurbishment projects)
Non return valves should be used to prevent circulation where not required
If thermostatic valves are used on the heating system a bypass my be necessary to prevent the pump from operating against a closed head should they all be closed (alternately do not fit a TRV on one of the radiators in the system)

Single Quinta Boiler, room or weather compensated Heating with Priority DHW using the Celcia 20

(Optimising/Weather compensated HTG with timed DHW)

Power Supply

- Boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler). Note: socket is located on the underside of the boiler

Boiler Interlocks *(for pressure switches etc.)*

- Safety Interlock - Remove exist link and fit Volt free switch pair on 10-14. If circuit broken the boiler will go to a shut down mode displaying code [b.] [2][6]. Will restart when circuit is closed

Indication Controls *(to report actual function)*

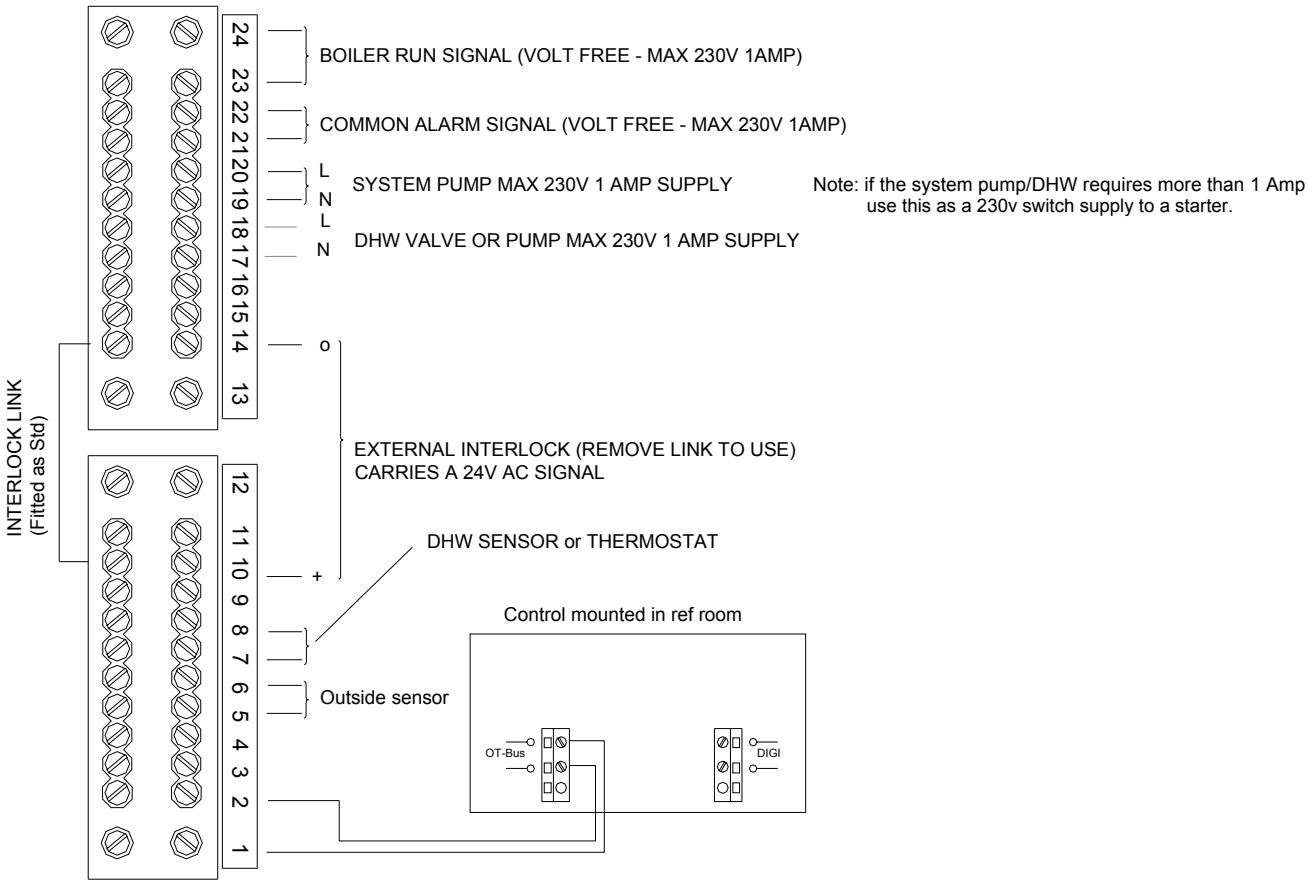
- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

Boiler Control Settings *(see section 6.5 in technical documentation)*

- Set boiler code [1.] to required flow temp ie: [8][1] = 81ºC (system design requirements)
- Set boiler code [A.] to [1][1], Internal modulation - HTG on DHW on
- Set boiler Interface selection code [9.] to [0][0] (Internal Interface)

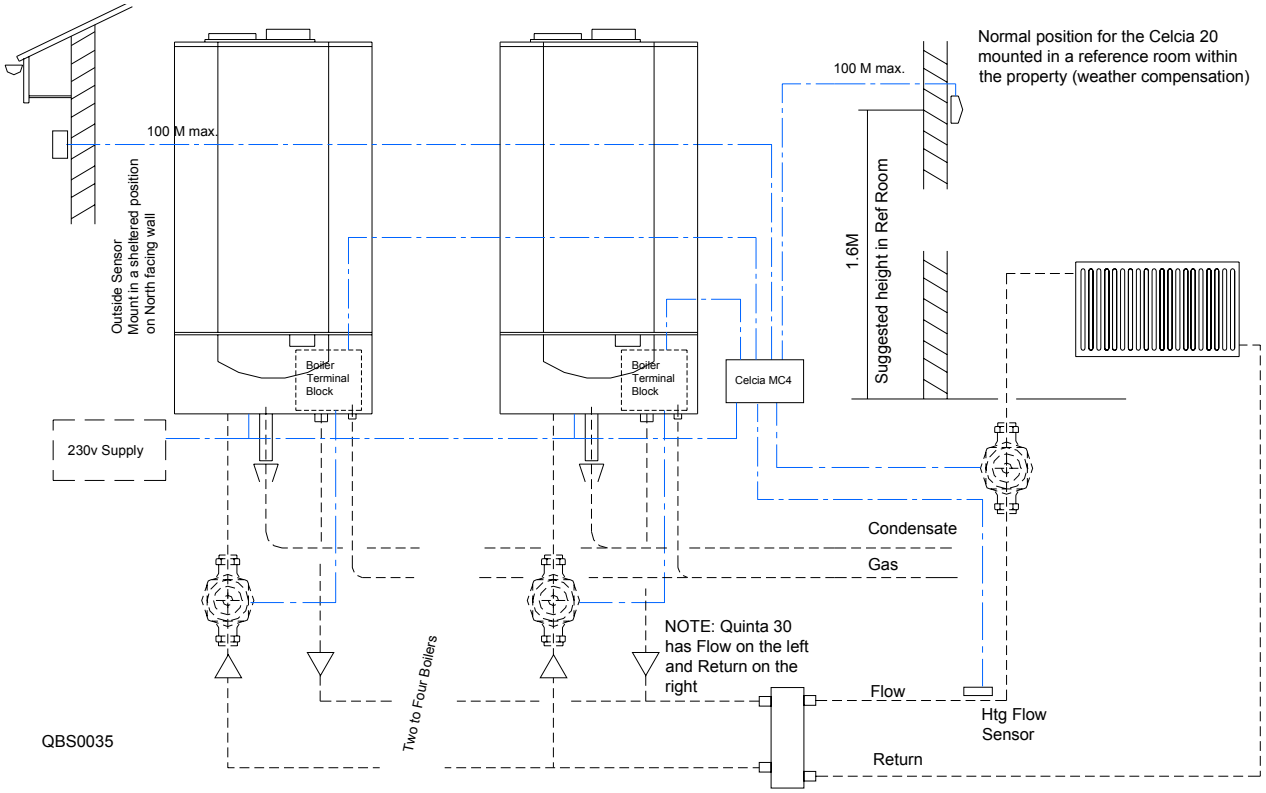
Fitting the Control

- Fit the control in a normally occupied reference room within the building being heated
- The boiler's internal wiring harness must be altered for the control to be recognised - Please refer to the instructions supplied with the control package
- Set up the controller to suit the design requirements and occupancy times for HTG in accordance with the instruction documents supplied
- DHW Control, Diverting valve option - Set boiler code [J.] to [0][0], (A=HTG and B=DHW), set Primary Pump option - Set boiler code [J.] to [0][1], set required DHW secondary temperature code [3] to required temp ie: [5][5] = 55ºC

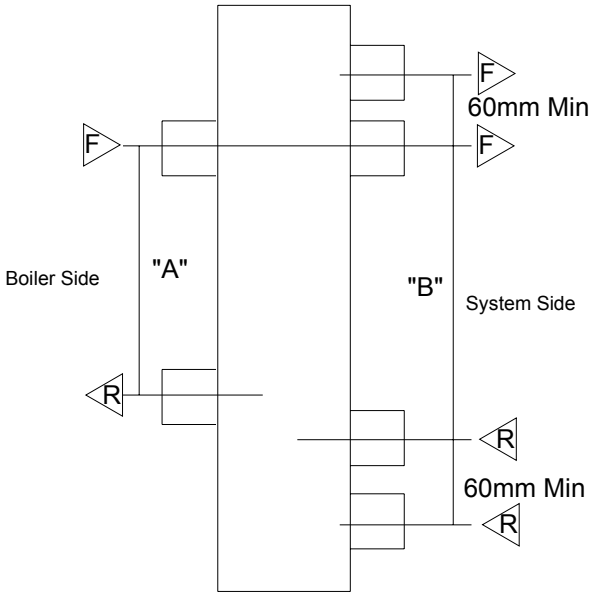

24 23 22 21 20 19 18 17 16 15 14 13
12 11 10 9 8 7 6 5 4 3 2 1
BOILER RUN SIGNAL (VOLT FREE - MAX 230V 1AMP)
COMMON ALARM SIGNAL (VOLT FREE - MAX 230V 1AMP)
L
N
SYSTEM PUMP MAX 230V 1 AMP SUPPLY
Note: if the system pump/DHW requires more than 1 Amp use this as a 230v switch supply to a starter.
L
N
DHW VALVE OR PUMP MAX 230V 1 AMP SUPPLY
o
EXTERNAL INTERLOCK (REMOVE LINK TO USE)
CARRIES A 24V AC SIGNAL
INTERLOCK LINK
(Fitted as Std)
DHW SENSOR or THERMOSTAT
+
Control mounted in ref room
Outside sensor
OT-Bus
DIGI

QBW0018 NOTE: Quinta 30 terminal numbers are reversed

Quinta Series Multiple boiler HTG only using a low loss header outside weather compensated with the Celcia MC4 and Celcia 20


Normal position for the Celcia 20 mounted in a reference room within the property (weather compensation)
100 M max.
100 M max.
Outside Sensor Mount in a sheltered position on North facing wall
1.6M
Suggested height in Ref Room
Boiler Terminal Block
Boiler Terminal Block
Celcia MC4
230v Supply
Condensate
Gas
NOTE: Quinta 30 has Flow on the left and Return on the right
Two to Four Boilers
Flow
Htg Flow Sensor
Return
QBS0035

Site fabricated Multi Boiler Low Loss Header (Not supplied by Broag-Remeha)



QBS0020

NOTE:
Boiler circulating pumps (sized for a nominal flow rate at 15ºC Δt) can be supplied by Broag as an option (Primary Pump Kit), provided that the header is sited within 1 meter of the last boiler.
For boiler pump selection where header distances are greater or a different primary operating Δ t is required please refer to the tables on page 6 of this booklet for details of Boiler nominal flow rates and resistances at various system Δ t.

Header is based on an “open tube” design

	Quinta 30/45			Quinta 65/85			Quinta 115		
No of Boilers	2	3	4	2	3	4	2	3	4
Low Loss Header Dia mm	100	125	150	150	200	200	200	250	250
Connecting pipe work mm	32	50	65	65	80	100	80	100	125
Dimension “A” mm	300	375	450	450	600	600	600	750	750
Dimension “B” mm	350	425	500	500	650	650	650	800	800

Multi Quinta Boiler, weather compensated Heating only using a site fabricated low loss header with the Celcia MC4 and Celcia 20

(Optimising/Weather compensated HTG)

Power Supply

- Boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler). Note: socket is located on the underside of the boiler

Boiler Interlocks *(for pressure switches etc.)*

- Safety Interlock - Remove exist link and fit Volt free switch pair on 10-14. If circuit broken the boiler will go to a shut down mode displaying code [b.] [2][6]. Will restart when circuit is closed

Indication Controls *(to report actual function)*

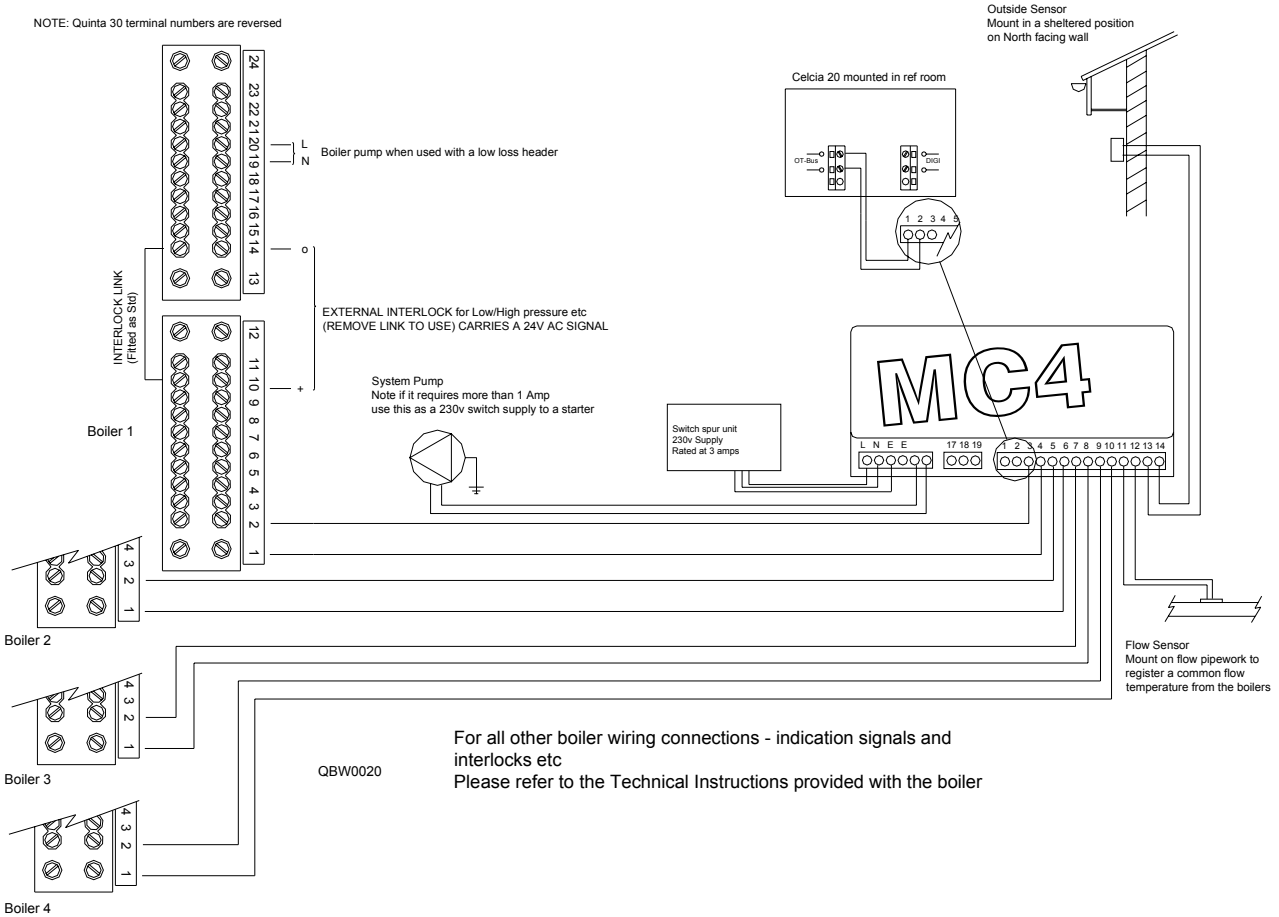
- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

Boiler Control Settings *(see section 6.5 in technical documentation)*

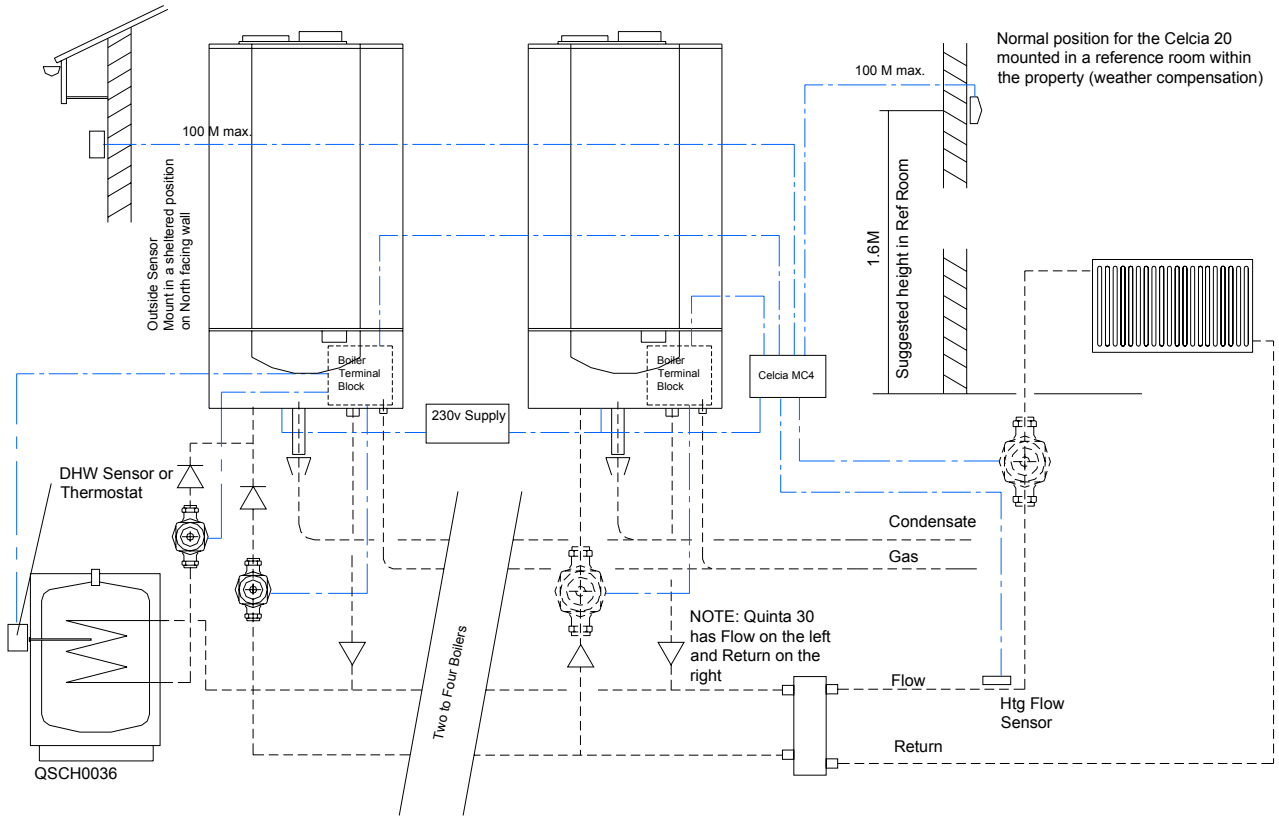
- Set boiler code ! to required flow temp ie: [8][1] = 81ºC (system design requirements)
- Set boiler code [A.] to [1][2], Internal modulation - HTG on DHW off
- Set boiler Interface selection code (to [0][0] (Internal Only)

Fitting the Control

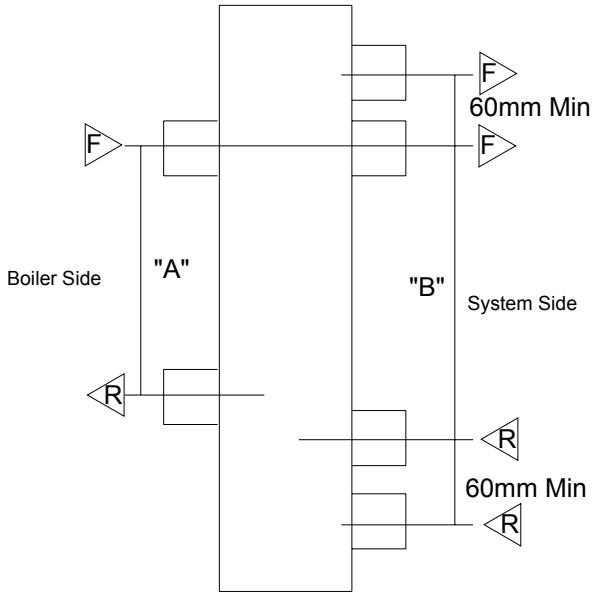
- Fit the Celcia 20 control in a normally occupied reference room within the building being heated
- Install the Celcia MC4 adjacent to the boiler group and connect as described in the fitting instructions
- The boiler's internal wiring harness must be altered for the control to be recognised - Please refer to the instructions supplied with the control package
- Install the outside sensor (ZAF 200) on a North facing wall in a sheltered position and connect to terminals 13 and 14 on the MC4
- Set up the controller to suit the design requirements and occupancy times for HTG in accordance with the instruction documents supplied


NOTE: Quinta 30 terminal numbers are reversed
Outside Sensor
Mount in a sheltered position
on North facing wall
Celcia 20 mounted in ref room
OT-Bus
DIGI
1 2 3 4 5
24 23 22 21 20 19 18 17 16 15 14 13
L
N
Boiler pump when used with a low loss header
INTERLOCK LINK
(Fitted as Std)
EXTERNAL INTERLOCK for Low/High pressure etc
(REMOVE LINK TO USE) CARRIES A 24V AC SIGNAL
12 11 10 9 8 7 6 5 4 3 2 1
Boiler 1
System Pump
Note if it requires more than 1 Amp
use this as a 230v switch supply to a starter
Switch spur unit
230v Supply
Rated at 3 amps
MC4
L N E E
17 18 19
1 2 3 4 5 6 7 8 9 10 11 12 13 14
4 3 2 1
Boiler 2
Boiler 3
Boiler 4
Flow Sensor
Mount on flow pipework to
register a common flow
temperature from the boilers
QBW0020
For all other boiler wiring connections - indication signals and
interlocks etc
Please refer to the Technical Instructions provided with the boiler

Quinta Series Multiple boiler HTG & Priority DHW using a site fabricated low loss header with the Celcia MC4 and Celcia 20


Normal position for the Celcia 20 mounted in a reference room within the property (weather compensation)
100 M max.
100 M max.
Outside Sensor Mount in a sheltered position on North facing wall
1.6M
Suggested height in Ref Room
Boiler Terminal Block
Boiler Terminal Block
Celcia MC4
230v Supply
DHW Sensor or Thermostat
Condensate
Gas
NOTE: Quinta 30 has Flow on the left and Return on the right
Two to Four Boilers
Flow
Htg Flow Sensor
Return
QSCH0036

Site fabricated Multi Boiler Low Loss Header (Not supplied by Broag-Remeha)



NOTE:
Boiler circulating pumps (sized for a nominal flow rate at 15ºC Δt) can be supplied by Broag as an option (Primary Pump Kit), provided that the header is sited within 1 meter of the last boiler.
For boiler pump selection where header distances are greater or a different primary operating Δ t is required please refer to the tables on page 6 of this booklet for details of Boiler nominal flow rates and resistances at various system Δ t.

Header is based on an “open tube” design

	Quinta 30/45			Quinta 65/85			Quinta 115		
No of Boilers	2	3	4	2	3	4	2	3	4
Low Loss Header Dia mm	100	125	150	150	200	200	200	250	250
Connecting pipe work mm	32	50	65	65	80	100	80	100	125
Dimension “A” mm	300	375	450	450	600	600	600	750	750
Dimension “B” mm	350	425	500	500	650	650	650	800	800

Multi Quinta Boiler, weather compensated Heating & Priority DHW using a site fabricated low loss header with the Celcia MC4 and Celcia 20

(Optimising/Weather compensated HTG)

Power Supply

- Boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler). Note: socket is located on the underside of the boiler

Boiler Interlocks *(for pressure switches etc.)*

- Safety Interlock - Remove exist link and fit Volt free switch pair on 10-14. If circuit broken the boiler will go to a shut down mode displaying code [b.] [2][6]. Will restart when circuit is closed

Indication Controls *(to report actual function)*

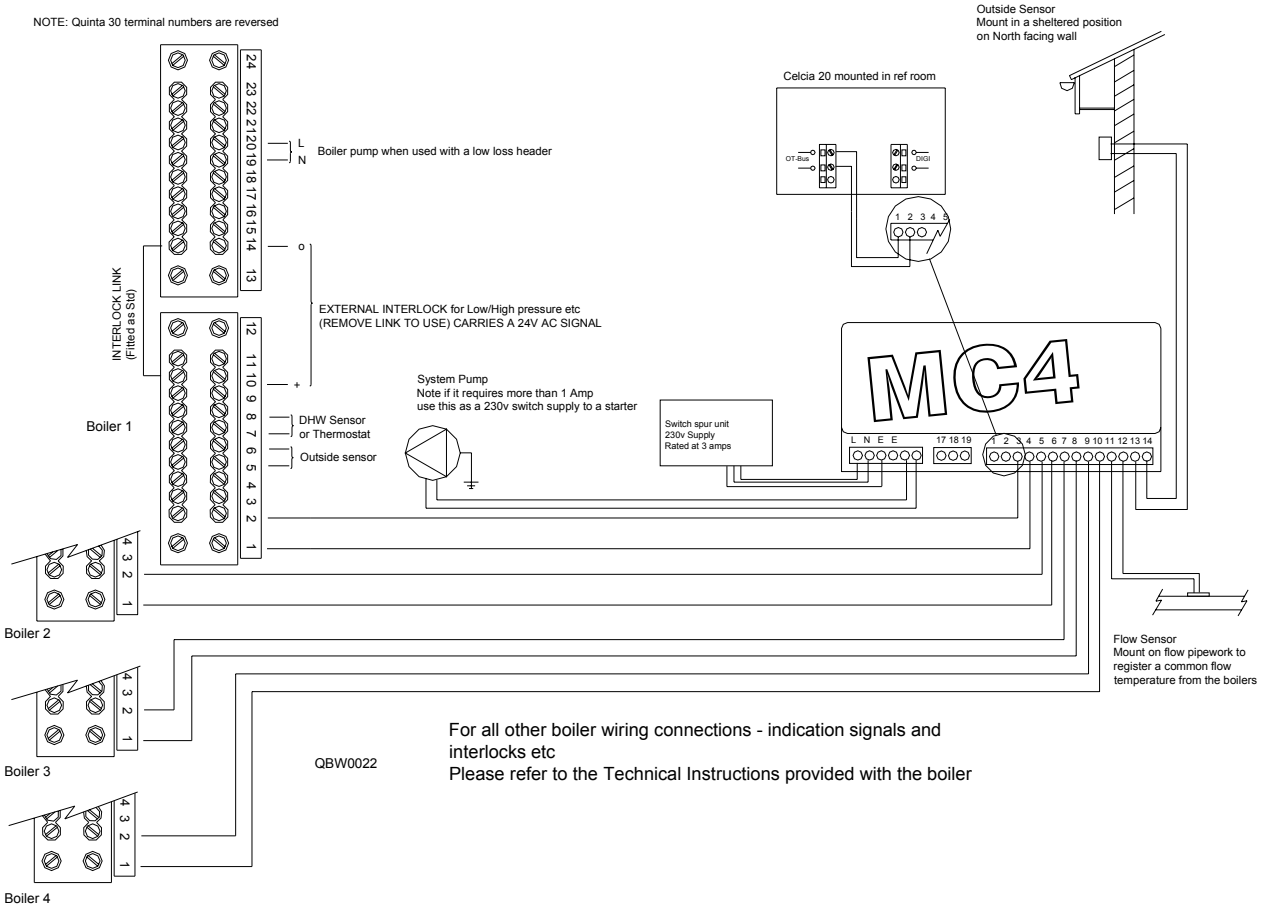
- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

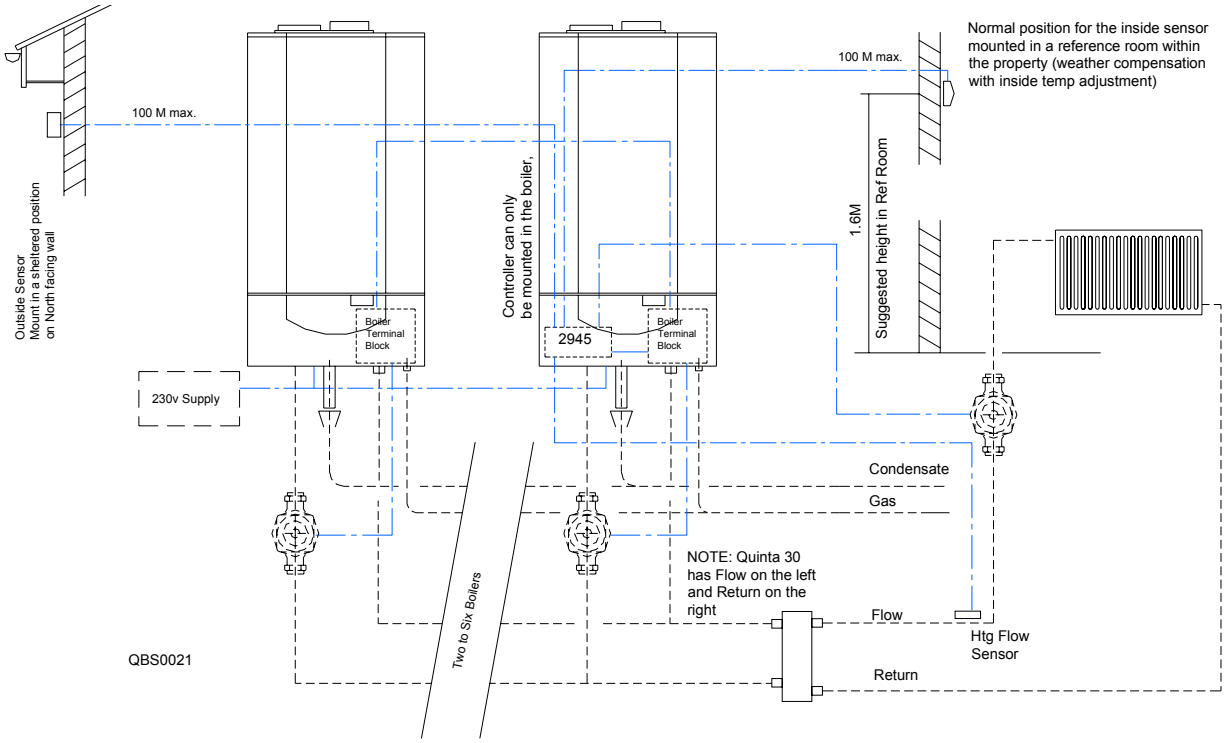
Boiler Control Settings *(see section 6.5 in technical documentation)*

- Set boiler code ! to required flow temp ie: [8][1] = 81ºC (system design requirements)
- Set boiler code (boiler with calorfier only) [A.] to [1][1], Internal modulation - HTG on DHW on
- Set boiler Interface selection code (to [0][0] (Internal Only)

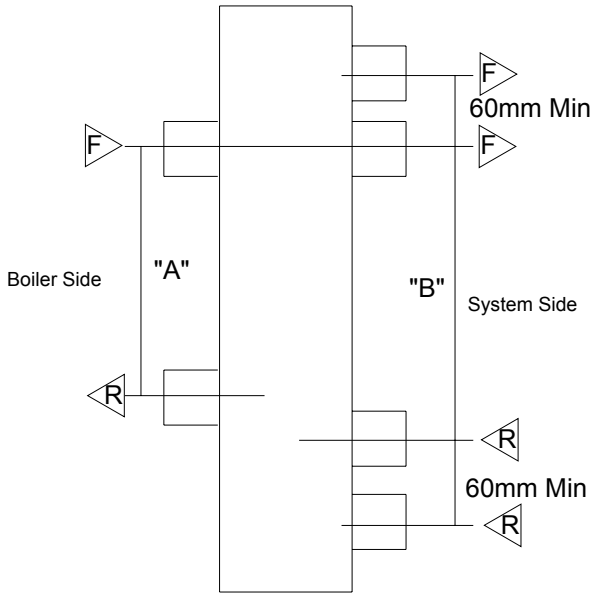
Fitting the Control

- Fit the Celcia 20 control in a normally occupied reference room within the building being heated
- Install the Celcia MC4 adjacent to the boiler group and connect as described in the fitting instructions
- The boiler's internal wiring harness must be altered for the control to be recognised - Please refer to the instructions supplied with the control package
- Install the outside sensor (ZAF 200) on a North facing wall in a sheltered position and connect to terminals 13 and 14 on the MC4
- Set up the controller to suit the design requirements and occupancy times for HTG in accordance with the instruction documents supplied


NOTE: Quinta 30 terminal numbers are reversed
Outside Sensor
Mount in a sheltered position
on North facing wall
Celcia 20 mounted in ref room
Boiler pump when used with a low loss header
INTERLOCK LINK
(Fitted as Std)
EXTERNAL INTERLOCK for Low/High pressure etc
(REMOVE LINK TO USE) CARRIES A 24V AC SIGNAL
System Pump
Note if it requires more than 1 Amp
use this as a 230v switch supply to a starter
Switch spur unit
230v Supply
Rated at 3 amps
DHW Sensor
or Thermostat
Outside sensor
Boiler 1
Boiler 2
Boiler 3
Boiler 4
MC4
Flow Sensor
Mount on flow pipework to
register a common flow
temperature from the boilers
For all other boiler wiring connections - indication signals and
interlocks etc
Please refer to the Technical Instructions provided with the boiler
QBW0022


Normal position for the inside sensor mounted in a reference room within the property (weather compensation with inside temp adjustment)
100 M max.
100 M max.
Outside Sensor Mount in a sheltered position on North facing wall
Controller can only be mounted in the boiler.
1.6M
Suggested height in Ref Room
Boiler Terminal Block
2945
Boiler Terminal Block
230v Supply
Condensate
Gas
NOTE: Quinta 30 has Flow on the left and Return on the right
Two to Six Boilers
Flow
Htg Flow Sensor
Return
QBS0021

Site fabricated Multi Boiler Low Loss Header (Not supplied by Broag-Remeha)



QBS0020

NOTE:

Boiler circulating pumps (sized for a nominal flow rate at 15°C Δt) can be supplied by Broag as an option (Primary Pump Kit), provided that the header is sited within 1 meter of the last boiler.

For boiler pump selection where header distances are greater or a different primary operating Δ t is required please refer to the tables on page 4 of this booklet for details of Boiler nominal flow rates and resistances at various system Δ t.

	Quinta 30/45			Quinta 65/85			Quinta 115		
No of Boilers	2	3	4	2	3	4	2	3	4
Low Loss Header Dia mm	100	125	150	150	200	200	200	250	250
Connecting pipe work mm	32	50	65	65	80	100	80	100	125
Dimension "A" mm	300	375	450	450	600	600	600	750	750
Dimension "B" mm	350	425	500	500	650	650	650	800	800

Multiple Boilers, Heating only using a site fabricated low loss header with a *rematic*® 2945 (*Optimising/Weather compensated Dual Zone control HTG)*

Power Supply

- Each boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler) socket is located on the underside of the boiler

Boiler Interlocks (for pressure switches etc.)

- Safety Interlock - Remove exist link on each boiler and fit Volt free switch pair on 10-14 to both boilers in parallel. If circuit is broken both boilers will go to a shut down mode displaying code b. 26. Boiler will restart when circuit is closed

Indication Controls (to report actual function of each boiler)

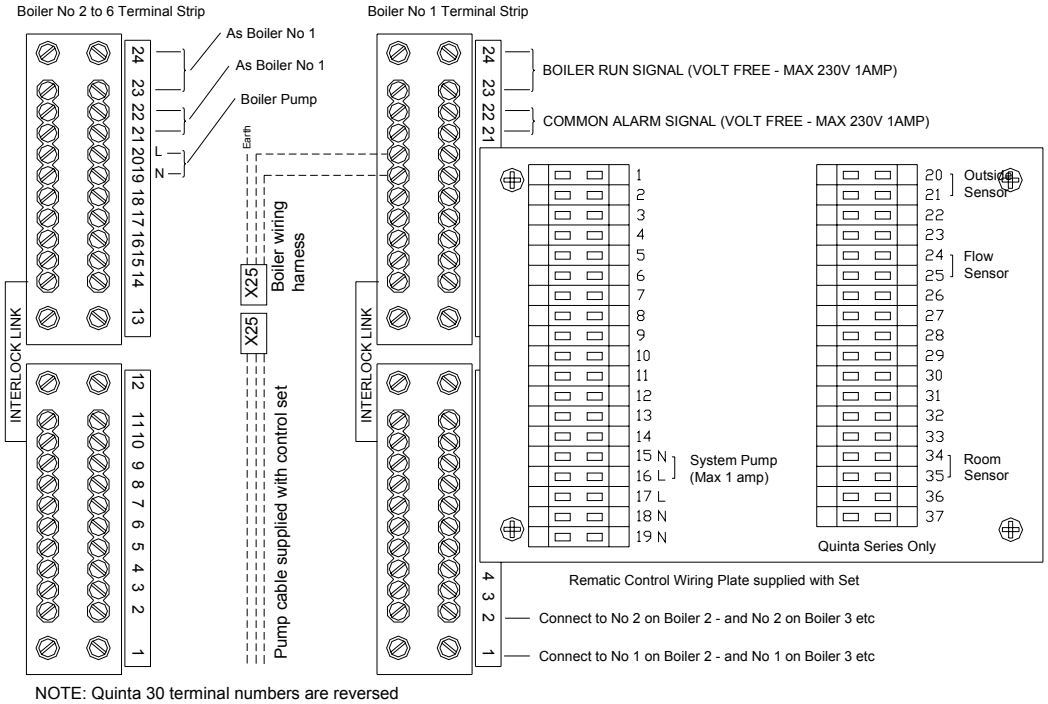
- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

Boiler Control Settings (see section 6.5 in technical documentation)

- Set each boiler code 1. to required flow temp ie: 81 = 81ºC (system design requirements)
- Set each boiler code A. to 12, Internal modulation - HTG on DHW off
- Set each boiler Interface selection code 9. to 01 (external interface)

Fitting the Control

- Fit the control in boiler No 1, mount the room, flow and outside sensors as indicated
- The boiler's internal wiring harness must be altered for the control to be recognised - Please refer to the instructions supplied with the control package
- Set up the controller to suit the design requirements and occupancy times for HTG in accordance with the instruction documents supplied


Boiler No 2 to 6 Terminal Strip
Boiler No 1 Terminal Strip
As Boiler No 1
As Boiler No 1
Boiler Pump
Earth
L
N
X25
X25
Boiler wiring harness
Pump cable supplied with control set
INTERLOCK LINK
INTERLOCK LINK
BOILER RUN SIGNAL (VOLT FREE - MAX 230V 1AMP)
COMMON ALARM SIGNAL (VOLT FREE - MAX 230V 1AMP)
Outside Sensor
Flow Sensor
System Pump (Max 1 amp)
Room Sensor
Quinta Series Only
Rematic Control Wiring Plate supplied with Set
Connect to No 2 on Boiler 2 - and No 2 on Boiler 3 etc
Connect to No 1 on Boiler 2 - and No 1 on Boiler 3 etc

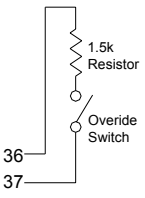
NOTE: Quinta 30 terminal numbers are reversed

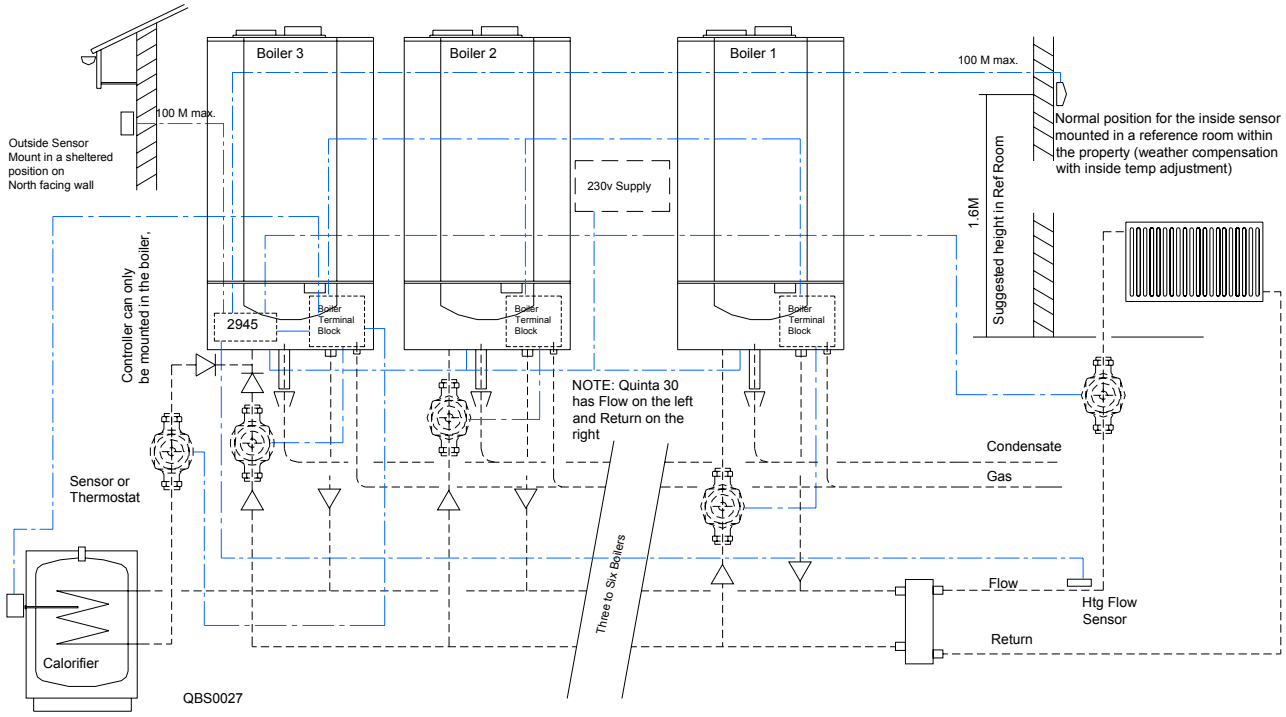
The wiring diagram shown is for the single heating zone please refer to the instructions in the control package for dual heating zones.

NOTE:
The Rematic Control Interface fitted to each boiler has a set of dip switches which must be set in accordance with the fitting instructions supplied with Control

QBW0010

If a heating extension timer is required a volt free switch arrangement (electrical or clockwork controlled) can be connected across terminals 36 / 37 in series with a 1.5k resistor as shown. NOT BROAG SUPPLY
Close the switch and the heating will run continuous on day time compensation (as set on the controller). Open the switch and control will revert to the set timed function.





Control logic

Set up the **rematic® 2945** C3 K controller to suit the installation and building heat loss response time it will provide timed, weather compensated heating with an optimum start facility (uses inside and outside sensors to delay the on time as dictated by weather conditions). Timed / priority DHW with a boosted flow temperature for fast recovery provided a high recovery calorifier is used.

Heating (Boilers 1 to 3)

During the timed on periods the heating will be day time weather compensated (in accordance with the heating curve programmed). The 2945 will directly control each boiler modulating their output and calling as many as are required to achieve the desired comfort conditions dictated by the compensation parameters

DHW (Boiler 1 only)

DHW takes priority over the heating system and on demand of the DHW sensor, the boiler connected the calorifier will take control from the 2945, boost its flow temperature from the compensated level determined by the 2945 control, to the boiler flow set point - code [1.] and energise the primary pump, at the same time will turn off the boiler pump
When the DHW demand is satisfied the boiler will shut down, de-energise the primary pump and re-energise the boiler pump. The 2945 will take back control of the boiler and call it in if necessary to satisfy the heating demand.

NOTE:
When using a Low loss header layout with the Broag DHW Primary pump kit the calorifier must be sited within 3M of the boiler. The DHW cylinder must be a high recovery unit capable of accepting the full or adjusted (ref boiler code [C.]) DHW output of the boiler being used , except when using the Quinta 30 when a standard domestic unit may be used provided the boiler's DHW output is limited to 15kW (code [C.] set to [25])

Multiple Boilers, Heating using a Single Calorifier using a primary pump for DHW and a low loss header with a *rematic*® 2945 control

(*Optimising/Weather compensated control for Dual HTG Zone and DHW Priority from one boiler)*

- Each boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler) socket is located on the underside of the boiler

Boiler Interlocks (for pressure switches etc.)

- Safety Interlock - Remove exist link on each boiler and fit Volt free switch pair on 10-14 to both boilers in parallel. If circuit is broken both boilers will go to a shut down mode displaying code [b.] [2][6]. Boilers will restart when circuit is closed

***I**ndication Controls (to report actual function of each boiler)*

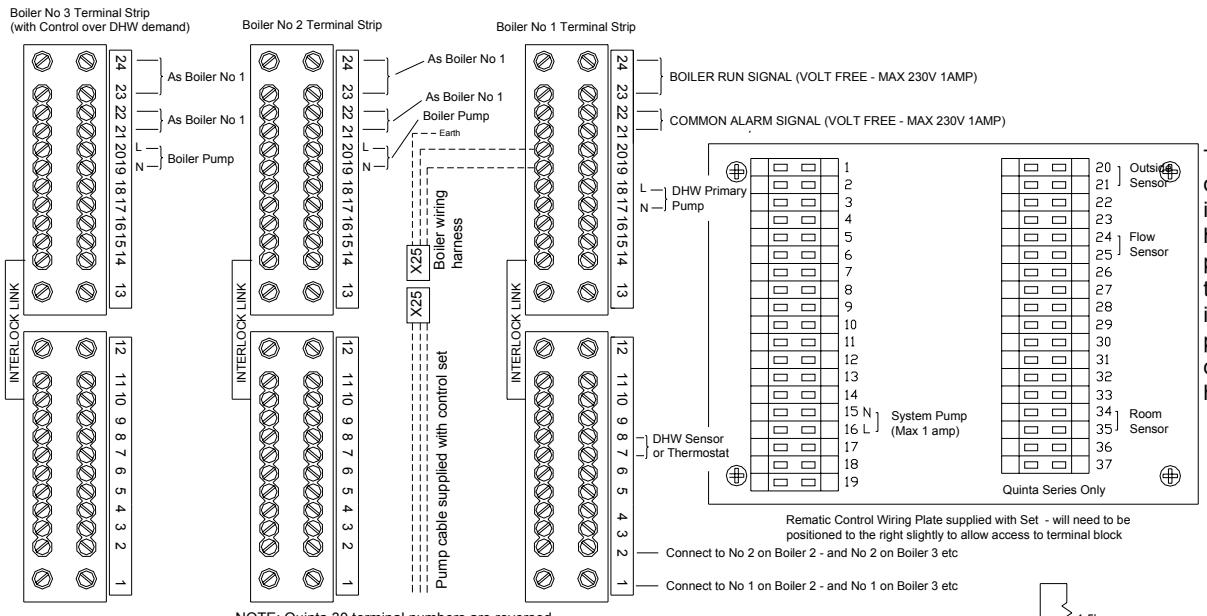
- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

Boiler Control Settings (see section 6.5 in technical documentation)

- Set each boiler code [1.] to required flow temp ie: [8][1] = 81ºC (system design requirements)
- Set each boiler code [A.] to [1][1], Internal modulation - HTG and DHW on
- Set each boiler Interface selection code [9.] to [0][1] (external interface)
- DHW Control, Primary Pump option - Set boiler code [J.] to [0][1], set required DHW secondary temperature code 3 to required temp ie: [5][5] = 55ºC (set the 2945 DHW to the same temperature setpoint).

Fitting the Control

- Fit the control in boiler No1, mount the room, flow and outside sensors as indicated
- The internal wiring harness on boiler No1 must be altered for the control to be recognised - Please refer to the instructions supplied with the control package
- Set up the controller to suit the design requirements and occupancy times for HTG and DHW in accordance with the instruction documents supplied

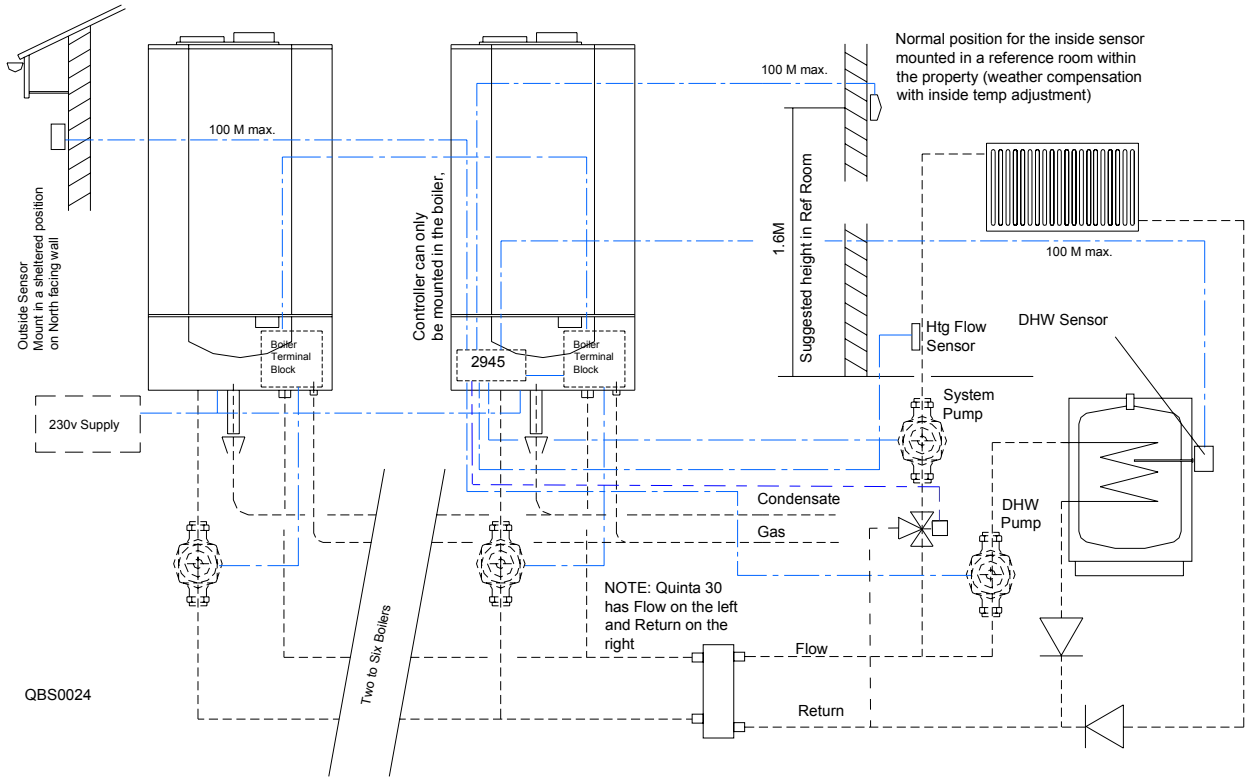

Boiler No 3 Terminal Strip
(with Control over DHW demand)
Boiler No 2 Terminal Strip
Boiler No 1 Terminal Strip
As Boiler No 1
As Boiler No 1
Boiler Pump
As Boiler No 1
As Boiler No 1
Boiler Pump
Earth
BOILER RUN SIGNAL (VOLT FREE - MAX 230V 1AMP)
COMMON ALARM SIGNAL (VOLT FREE - MAX 230V 1AMP)
INTERLOCK LINK
X25
Boiler wiring harness
Pump cable supplied with control set
DHW Primary Pump
System Pump (Max 1 amp)
DHW Sensor or Thermostat
Outside Sensor
Flow Sensor
Room Sensor
Quinta Series Only
Rematic Control Wiring Plate supplied with Set - will need to be positioned to the right slightly to allow access to terminal block
Connect to No 2 on Boiler 2 - and No 2 on Boiler 3 etc
Connect to No 1 on Boiler 2 - and No 1 on Boiler 3 etc
NOTE: Quinta 30 terminal numbers are reversed
1.5k Resistor
Overide Switch
36
37

The wiring diagram shown is for the single heating zone please refer to the instructions in the control package for dual heating zones.

NOTE:
The Rematic Control Interface fitted to each boiler has a set of dip switches which must be set in accordance with the fitting instructions supplied with Control

QBW0015

If a heating extension timer is required a volt free switch arrangement (electrical or clockwork controlled) can be connected across terminals 36 / 37 in series with a 1.5k resistor as shown. NOT BROAG SUPPLY
Close the switch and the heating will run continuous on day time compensation (as set on the controller). Open the switch and control will revert to the set timed function.


Normal position for the inside sensor mounted in a reference room within the property (weather compensation with inside temp adjustment)
100 M max.
100 M max.
100 M max.
Outside Sensor Mount in a sheltered position on North facing wall
Controller can only be mounted in the boiler.
1.6M
Suggested height in Ref Room
Htg Flow Sensor
DHW Sensor
Boiler Terminal Block
2945
Boiler Terminal Block
230v Supply
System Pump
Condensate
Gas
DHW Pump
NOTE: Quinta 30 has Flow on the left and Return on the right
Flow
Return
Two to Six Boilers
QBS0024

Control logic

Set up the **rematic® 2945** C3 K controller to suit the installation and building heat loss response time and it will provide timed, weather compensated heating with an optimum start facility (uses inside and outside sensors to delay the on time as dictated by weather conditions) and timed/temperature controlled priority DHW with a boosted flow temperature for fast recovery provided a high recovery calorifier is used.

Heating (All boilers available)

During the timed on periods the heating will be day time weather compensated (in accordance with the heating curve programmed). The 2945 will directly control each boiler modulating their output and calling as many as are required to achieve the desired comfort conditions dictated by the compensation parameters

DHW (All boilers available)

DHW will take priority over heating and on demand of the DHW sensor the control will turn on the Primary pump and boost the boiler flow temperature to the DHW primary flow set point, if this set point is higher than the required heating flow set point (determined by the compensator) the flow sensor will detect the rise in temperature and compensate the heating via the 3 port valve.
When the DHW demand is satisfied the control will turn the primary pump off and reduce the flow temperature to the compensated level.

The 2945 controller can also operate the DHW and heating in parallel (both on or off working indepently of each other) but if the DHW temperature drops below appox 30ºC the DHW priority will again become active.

Multiple Boilers, Heating and DHW using a low loss header with a *re-matic*® 2945 control

(*Optimising/Weather compensated control for Dual HTG Zone and DHW priority from all boilers)*

Power Supply

- Each boiler requires a permanent 230v single phase supply fused at 6 amps connected to the Euro plug (supplied with the boiler) socket is located on the underside of the boiler

Boiler Interlocks *(for pressure switches etc.)*

- Safety Interlock - Remove exist link on each boiler and fit Volt free switch pair on 10-14 to both boilers in parallel. If circuit is broken both boilers will go to a shut down mode displaying code [b.] [2][6]. Boilers will restart when circuit is closed

Indication Controls *(to report actual function of each boiler)*

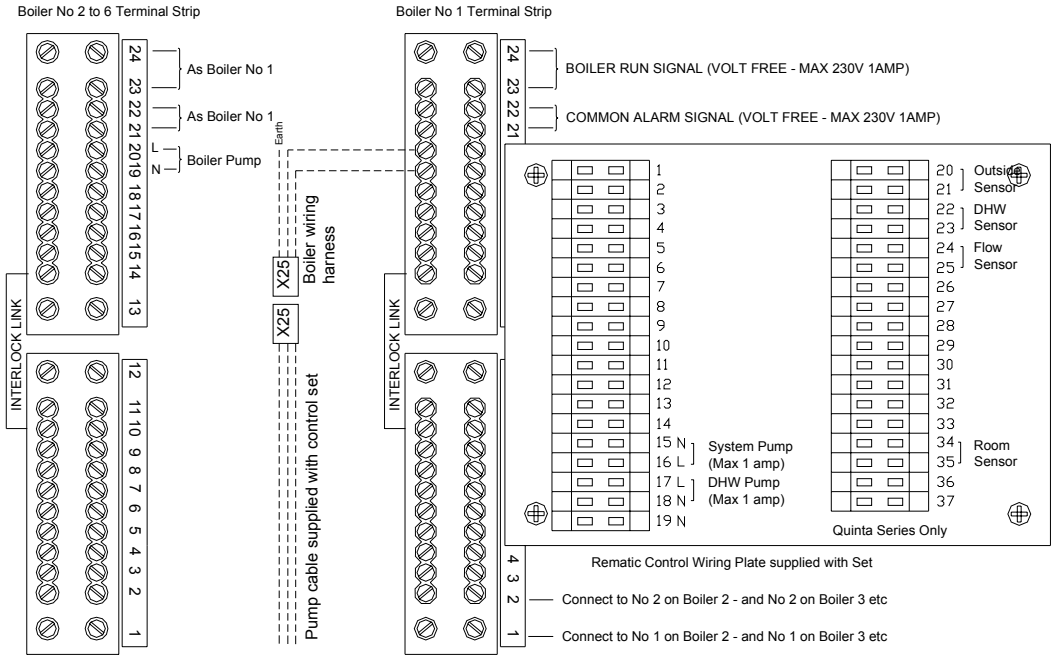
- Common Alarm - volt free relay, opens on alarm or power failure Terminals 21 and 22
- Boiler Run - volt free relay, closes on run Terminals 23 and 24
- Output to BMS to confirm power supply OK - 230v Terminal 16 and N
- Output to BMS to confirm internal control supply OK - 24v ac Terminals 10 and 11

Boiler Control Settings *(see section 6.5 in technical documentation)*

- Set each boiler code [1.] to required flow temp ie: [8][1] = 81ºC (system design requirements)
- Set each boiler code [A.] to [1][1], Internal modulation - HTG and DHW on
- Set each boiler Interface selection code [9.] to [0][1] (external interface)

Fitting the Control

- Fit the control in boiler No1, mount the room, flow and outside sensors as indicated
- The internal wiring harness on boiler No1 must be altered for the control to be recognised - Please refer to the instructions supplied with the control package


Boiler No 2 to 6 Terminal Strip
Boiler No 1 Terminal Strip
As Boiler No 1
As Boiler No 1
Boiler Pump
L
N
Earth
X25
X25
Boiler wiring harness
Pump cable supplied with control set
INTERLOCK LINK
INTERLOCK LINK
BOILER RUN SIGNAL (VOLT FREE - MAX 230V 1AMP)
COMMON ALARM SIGNAL (VOLT FREE - MAX 230V 1AMP)
Outside Sensor
DHW Sensor
Flow Sensor
System Pump (Max 1 amp)
DHW Pump (Max 1 amp)
Room Sensor
Quinta Series Only
Rematic Control Wiring Plate supplied with Set
Connect to No 2 on Boiler 2 - and No 2 on Boiler 3 etc
Connect to No 1 on Boiler 2 - and No 1 on Boiler 3 etc

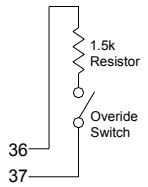
NOTE: Quinta 30 terminal numbers are reversed

The wiring diagram shown is for the single heating zone please refer to the instructions in the control package for dual heating zones.

NOTE:
The Rematic Control Interface fitted to each boiler has a set of dip switches which must be set in accordance with the fitting instructions supplied with Control

QBW0012

If a heating extension timer is required a volt free switch arrangement (electrical or clockwork controlled) can be connected across terminals 36 / 37 in series with a 1.5k resistor as shown. NOT BROAG SUPPLY
Close the switch and the heating will run continuous on day time compensation (as set on the controller). Open the switch and control will revert to the set timed function.



Remeha Quinta Series

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The content in this brochure is based on the latest information available at date of publication and may be subject to revisions.
We reserve the right to continuous development in both design and manufacture, therefore any changes to the technology or equipment employed may not be retrospective nor may we be obliged to adjust earlier supplies accordingly

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